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Education, Labor, and Pensions, U.S.
Senate

November 2007

MILITARY BASE REALIGNMENTS AND CLOSURES

Impact of
Terminating,
Relocating, or
Outsourcing the
Services of the Armed
Forces Institute of
Pathology



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Why GAO Did This Study

The 2005 Base Realignment and Closure (BRAC) provision required the Department of Defense (DOD) to close the Armed Forces Institute of Pathology (AFIP). GAO was asked to address the status and potential impact of implementing this BRAC provision. This report discusses (1) key services AFIP provides to the military and civilian communities; (2) DOD's plans to terminate, relocate, or outsource services currently provided by AFIP; and (3) the potential impacts of disestablishing AFIP on military and civilian communities. New legislation requires DOD to consider this GAO report as it develops its plan for the reorganization of AFIP. GAO reviewed DOD's plans, analysis, and other relevant information, and interviewed officials from the public and private sectors.

What GAO Recommends

GAO recommends DOD report to Congress on (1) its strategies for organizing consultation services; (2) the repository's assets and their potential use; and (3) its strategies for using the repository. DOD generally concurred with GAO's findings and conclusions. GAO has modified its recommendations to reflect concerns DOD raised about additional steps it needs to take before it can report on its strategies for using the repository. VA stated that GAO's report was factually accurate, but believed that it did not sufficiently describe the impact of closing AFIP. GAO believes that this report provides a balanced assessment of AFIP's services and the impact of its closing.

To view the full product, including the scope and methodology, click on [GAO-08-20](#). For more information, contact Randall B. Williamson at (202) 512-7114 or williamsonr@gao.gov.

MILITARY BASE REALIGNMENTS AND CLOSURES

Impact of Terminating, Relocating, or Outsourcing the Services of the Armed Forces Institute of Pathology

What GAO Found

AFIP pathologists perform three key services—diagnostic consultations, education, and research—primarily for physicians from DOD, the Department of Veterans Affairs (VA), and civilian institutions. AFIP provides consultations when physicians cannot make a diagnosis or are unsure of their initial diagnosis. About half of its 40,000 consultations in 2006 were for DOD physicians, and the rest were nearly equally divided between VA and civilian physicians. AFIP's educational services train physicians in diagnosing the most difficult-to-diagnose diseases. Civilian physicians use these services more extensively than military physicians. In addition, AFIP pathologists collaborate with others on research applicable to military operations and general medicine, often using material from AFIP's repository of tissue specimens to gain a better understanding of disease diagnosis and treatment.

To implement the 2005 BRAC provision, DOD plans to terminate most services currently provided by AFIP and is developing plans to relocate or outsource others. DOD plans to outsource some diagnostic consultations to the private sector through a newly established office and use its pathologists for consultations when possible. With the exception of two courses, DOD does not plan to retain AFIP's educational program. DOD also plans to halt AFIP's research and realign the repository, which is AFIP's primary research resource. The BRAC provision allows DOD flexibility to retain services that were not specifically addressed in the provision. As a result, DOD will retain four additional AFIP services and is considering whether to retain six others. DOD had planned to begin implementation of the BRAC provision related to AFIP in July 2007 and complete action by September 2011, but statutory requirements prevent DOD from reorganizing or relocating AFIP functions until after DOD submits a detailed plan and timetable for the proposed implementation of these changes to congressional committees no later than December 31, 2007. Once the plan has been submitted, DOD can resume reorganizing and relocating AFIP.

Discontinuing, relocating, or outsourcing AFIP services may have minimal impact on DOD, VA, and civilian communities because pathology services are available from alternate sources, but a smooth transition depends on DOD's actions to address the challenges in developing new approaches to obtaining pathology expertise and managing the repository. For consultations, these challenges are to determine how to use existing pathology resources, obtain outside expertise, and ensure coordination and funding of services to avoid disincentives to quality care. While DOD has begun to identify the challenges, it has not developed strategies to address them. Similarly, whether the repository will continue to be a rich resource for military and civilian research depends on how DOD populates, maintains, and provides access to it in the future, but DOD has not developed strategies to address these issues. DOD contracted for a study, due to be completed in October 2008, of the usefulness of the material in the repository. DOD plans to use this study to help make decisions about managing the repository.

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Abbreviations

AFIP	Armed Forces Institute of Pathology
ARP	American Registry of Pathology
ASD(HA)	Assistant Secretary of Defense for Health Affairs
BRAC	Base Realignment and Closure
CAP	College of American Pathologists
CDC	Centers for Disease Control and Prevention
CME	continuing medical education
DNA	deoxyribonucleic acid
DOD	Department of Defense
DU	depleted uranium
MTF	military treatment facility
PMO	Program Management Office
USUHS	Uniformed Services University of the Health Sciences
VA	Department of Veterans Affairs

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United States Government Accountability Office
Washington, DC 20548

November 9, 2007

The Honorable Edward M. Kennedy
Chairman
The Honorable Michael B. Enzi
Ranking Member
Committee on Health, Education, Labor,
and Pensions
United States Senate

On May 13, 2005, the Department of Defense (DOD) recommended closing the Armed Forces Institute of Pathology¹ (AFIP)—an agency within DOD—as part of the Base Realignment and Closure (BRAC) process.² This would require that the pathology services currently provided by AFIP be discontinued, transferred to other parts of DOD or elsewhere, or outsourced to the civilian community. AFIP provides pathology expertise—which is based on laboratory analyses of tissue or other specimens to diagnose diseases or other medical conditions—to military and civilian physicians and maintains a rich and comprehensive catalog of pathology material such as tissue specimens, referred to as the National Pathology Repository.³ In addition to providing services to DOD, AFIP provides its expertise to other physicians such as those working at the Department of Veterans Affairs (VA) and it has statutory authority to

¹Pathology is the study of bodily changes due to disease, injury, or other medical conditions, and it can lead to advancements in diagnosis and treatment.

²Through the BRAC process, DOD can recommend closing or realigning military facilities to reorganize its structure and facilitate new ways of doing business. These recommendations are reviewed by the independent BRAC Commission. The BRAC Commission then issues its recommendations to the President. After the President approves the recommendations, they are forwarded to Congress, which has 45 days to disapprove the recommendations on an all-or-none basis; if Congress does not act, the recommendations become binding.

³The National Pathology Repository, located at AFIP, stores material coded by pathologic diagnosis. The National Pathology Repository currently stores over 2.8 million cases coded since 1917. The material includes written records and over 50 million microscopic slides, 30 million paraffin tissue blocks, and 12 million preserved wet tissue specimens. Cases represent the entire spectrum of human disease, including both sexes, all races/ethnicities, all ages, as well as animal disease, and come from contributors worldwide. Hereafter, the National Pathology Repository is referred to as the repository.

provide pathology services to civilian physicians.⁴ According to the College of American Pathologists (CAP) and other pathology organizations, AFIP is relied upon by its customers as a definitive consult on the most difficult-to-diagnose cases and through its research and training has advanced the knowledge and competency of the medical profession.

In accordance with the BRAC statute, DOD must complete closure and realignment actions within 6 years from the time the recommendations were forwarded to Congress, which for the 2005 BRAC provisions is September 15, 2011.⁵ In light of the BRAC provision specific to AFIP,⁶ the Senate Committee on Health, Education, Labor, and Pensions requested an analysis of the impact of disestablishing, relocating, or outsourcing AFIP's key services due to concerns that this would affect the ability of military and civilian communities to obtain high-quality pathology services. In this report, we discuss (1) the key services AFIP provides to the military and civilian communities; (2) DOD's plans to terminate, relocate, or outsource services currently provided by AFIP; and (3) the potential impacts of disestablishing AFIP on military and civilian communities.

To accomplish these objectives, we reviewed recent reports describing AFIP's services and business practices, including a previous GAO report on AFIP's business plan,⁷ as well as those conducted by the Army Audit Agency and BearingPoint—a consulting company that fulfilled a contract from the Army Surgeon General to review AFIP. We also reviewed other documents and legislation pertaining to AFIP and the BRAC provision, including business plans and data related to analysis that led to BRAC-related decisions. Additionally, we obtained data from AFIP to describe key services it provides and we determined the data to be sufficiently reliable for the purposes of this report. We also interviewed officials from AFIP, VA, the American Registry of Pathology (ARP), and pathology associations such as CAP to collect information on the services that AFIP

⁴See 10 U.S.C. § 176(b)(1)(A).

⁵See Defense Base Closure and Realignment Act of 1990, Pub. L. No. 101-510, § 2904(a)(5), codified as amended at 10 U.S.C. § 2687, note.

⁶In this report, we refer to this as the BRAC provision.

⁷GAO, *Armed Forces Institute of Pathology: Business Plan's Implementation Is Unlikely to Achieve Expected Financial Benefits and Could Reduce Civilian Role*, [GAO-05-615](#) (Washington, D.C.: June 30, 2005).

provides. Within DOD, we interviewed officials from the Offices of the Surgeons General of the Army, Navy, and Air Force; the Office of the Assistant Secretary of Defense for Health Affairs (ASD(HA)); the TRICARE Management Activity; the Office of the Deputy Under Secretary of Defense (Installations and Environment); the Uniformed Services University of the Health Sciences (USUHS)—a military medical training and research institution;⁸ and the Office of the General Counsel. We also interviewed pathologists from DOD military treatment facilities (MTF) and VA medical centers. Finally, to assess the potential impacts of terminating AFIP and relocating services, we interviewed officials as mentioned above, civilian pathologists from major medical centers, as well as representatives from pathology and radiology associations such as ARP, CAP, the American Society for Investigative Pathology, the Association of Pathology Chairs, the American College of Radiology, and the Canadian Association of Radiologists. We conducted our work from March 2007 through November 2007 in accordance with generally accepted government auditing standards. Further details on our scope and methodology are described in appendix I.

Results in Brief

AFIP pathologists perform three key services—diagnostic consultations, education, and research—that benefit military and civilian communities. AFIP pathologists provide diagnostic consultations when physicians—that is, clinicians or general pathologists—at DOD, VA, or civilian medical centers cannot make a diagnosis or are unsure of their initial diagnosis. In 2006, AFIP provided over 40,000 diagnostic consultations, almost half of which were for DOD. AFIP's remaining consultations were nearly equally divided between VA and civilian physicians. AFIP's educational services include courses, texts, and distance learning activities that draw upon pathology material from the repository. AFIP's educational services train physicians in diagnosing the most difficult-to-diagnose diseases. While DOD, VA, and civilian physicians use AFIP's educational services, civilian physicians use AFIP's educational services more extensively than military physicians. Regarding its research services, AFIP pathologists work individually and in partnership with other federal and private researchers using material from the repository to conduct research applicable to

⁸USUHS consists of a military medical school and graduate nursing school and provides doctoral and masters degrees in biomedical and public health. It is affiliated with major military teaching hospitals, such as Walter Reed Army Medical Center and Wilford Hall Medical Center. Additionally, USUHS is affiliated with the Washington Hospital Center, a major civilian teaching hospital.

military operations, as well as to diagnose and treat diseases affecting military and civilian health. For example, pathologists from AFIP were able to reconstruct the genome of the virus that caused the 1918 Spanish Flu pandemic from material in the repository. This discovery has provided a better understanding of how an avian flu epidemic can become deadly to humans, which in turn has affected current strategies to address the potential of pandemic flu.

In accordance with the BRAC provision, DOD plans to terminate most services currently provided by AFIP and is developing plans to relocate or outsource other services. Specifically, DOD plans to outsource its second-opinion and some initial consultations to the private sector through a new Program Management Office (PMO), which was required to be established by the BRAC provision. DOD has not determined whether it would allow VA to obtain diagnostic consultations through the PMO. DOD plans to retain and relocate only two training programs currently offered by AFIP—the enlisted histology technician training and the DOD Veterinary Pathology Residency Program. DOD also plans to halt AFIP’s research and realign the repository, which is AFIP’s primary research resource. The BRAC provision provided DOD with flexibility to retain services that were not addressed in the provision. In accordance with this statutory authority, the ASD(HA) has retained four additional AFIP services and is considering whether to retain six others. DOD planned to begin implementation of the BRAC provision in July 2007 and to complete action by September 2011. However, statutory requirements prevent DOD from reorganizing or relocating AFIP functions until after DOD has submitted detailed plans and timetables for the proposed reorganization and relocation to the House and Senate Appropriations and Armed Services Committees.⁹ Once the plan has been submitted, DOD can resume reorganizing and relocating AFIP. However, other developments could impact the implementation of those plans. Specifically, Congress is considering requiring or allowing DOD to establish a new Joint Pathology Center.

⁹See U.S. Troop Readiness, Veterans’ Care, Katrina Recovery and Iraq Accountability Appropriations Act, Pub. L. No. 110-28, § 3702, 121 Stat. 112, 144-45 (2007). This law requires DOD to take into account this GAO report as it develops its detailed plan and timetable for the proposed reorganization and relocation of AFIP, if the GAO report is available on or before November 16, 2007. DOD is required to submit its plan no later than December 31, 2007.

Discontinuing or relocating AFIP services may have minimal impact on DOD, VA, and civilian communities because alternative services are available from other sources. Although AFIP is a noted center for pathology expertise, DOD, VA, and civilian pathologists may obtain pathology consultations from sources other than AFIP, as other medical institutions have subspecialty pathology experts that provide this service. Other institutions also provide pathology education and are used by DOD, VA, and civilian pathologists to fulfill continuing medical education (CME) requirements. Further, DOD, VA, and civilian pathologists could continue to conduct research, using material from the repository, and possibly through collaborations with other institutions. However, a smooth transition in services depends on DOD's actions to address challenges involved in developing new approaches to obtain subspecialty pathology consultations and manage the repository to facilitate its use for research. For consultations, these challenges are to determine how to effectively use existing specialized pathology resources, obtain outside expertise, and ensure coordination and funding of services to encourage efficiency while avoiding disincentives to quality care. While DOD has begun to identify the challenges, it has not developed strategies to address them. Similarly, whether the repository will continue to be a rich resource for DOD, VA, and civilian research depends on how DOD populates, maintains, and provides access to it in the future, but DOD has not developed its strategies to address issues that will affect the viability and usefulness of the repository. DOD awarded a contract to study the usefulness of the material in the repository and will use the study, to be completed by the end of 2008, to help make decisions on how the repository will be managed.

We are recommending that DOD include its strategies for organizing consultation services in its 2007 plan to Congress. Furthermore, we are recommending that DOD provide information on the status of the repository's assets and their potential for research within 6 months of completing its study. We are also recommending that DOD provide a report to Congress, prior to USUHS assuming responsibility for the repository, on its implementation strategies for how it will populate, manage, and use the repository.

In commenting on a draft of this report, DOD generally concurred with the findings and recommendations. However, our draft report had recommended that DOD provide information on its implementation strategies for how it will populate, manage, and use the repository within 6 months of completing its study. DOD raised concerns with respect to steps it needs to take before it could report to Congress on its

implementation strategies for how it will populate, manage, and use the repository. As a result, we altered our recommendations as described above. VA agreed that GAO's report was factually accurate, but believed it did not sufficiently describe the impact of closing AFIP. We believe that we provided a balanced assessment of AFIP's services and the impact of its closing.

Background

In 1862, the Army Surgeon General established a repository in the Army Medical Museum for disease specimens collected from Civil War soldiers. The Army Institute of Pathology was created as a part of the museum in 1944, using the museum's extensive collection of disease specimens to develop expertise in diagnostic pathology. In 1949, the Army Institute of Pathology was renamed the Armed Forces Institute of Pathology, and the museum became a unit within AFIP. In 1976, the Department of Defense Appropriation Authorization Act for Fiscal Year 1977 established AFIP in its current form, as a joint entity of the Departments of the Army, Navy, and Air Force, to offer pathologic support to military and civilian medicine in consultation, education, and research.¹⁰

Role of AFIP

Throughout the early part of the 20th century, AFIP was the only institution in the country that maintained expertise in every major area of anatomical pathology, attracting large numbers of consultations, trainees, and research grants on the basis of the institute's unique reputation. However, according to AFIP's Scientific Advisory Board, many changes in modern medical practice over the last several decades have altered the environment in which AFIP operates. For example, AFIP must now compete with over one hundred civilian medical institutions, many of which have in-house experts and comparable subspecialty areas of pathology.

AFIP provides pathology expertise for all branches of the military. AFIP also provides pathology expertise for VA in exchange for a specified number of VA staff positions assigned to AFIP. Additionally, AFIP offers pathology expertise on a reimbursable basis for its civilian customers. To assist AFIP in this part of its mission, the Department of Defense Appropriation Authorization Act for Fiscal Year 1977 authorized ARP to be established as a nonprofit corporation with responsibility for encouraging

¹⁰See Pub. L. No. 94-361, § 811, 90 Stat. 923, 933-34 (codified at 10 U.S.C. § 176).

and facilitating collaborative work between AFIP and civilian medicine.¹¹ As such, ARP enters into contracts, collects fees, and accepts research grants on behalf of AFIP, in support of cooperative enterprises and interchange between military and civilian pathology.

From 1998 through 2006, DOD and others conducted reviews that concluded that AFIP lacked controls over its financial operations, provided services for the civilian medical community without adequate reimbursement, and the costs of the services it provided to VA exceeded the value of the paid staff positions VA provided in exchange.¹² These reviews concluded that DOD, in effect, subsidized AFIP's work for VA and civilian customers. In response to these concerns, AFIP began making changes to its operations in 2000, including the development and implementation of a business plan meant to increase AFIP's revenue and reduce DOD's level of funding to AFIP.

DOD Examines AFIP's Future Role

DOD examined AFIP's operations as part of the 2005 BRAC process, which was intended to find ways to consolidate, realign, or find alternative uses for current facilities given the U.S. military's limited resources. In making its 2005 BRAC recommendations, DOD applied statutory selection criteria that included military value, costs and savings, economic impact to local communities, community support infrastructure, and environmental impact.¹³ In applying these criteria, the law required that priority consideration be given to military value, and allowed the other criteria to be considered to a lesser extent. In DOD's evaluation, AFIP received a low military value due to its large portion of civilian-related work. Therefore, DOD recommended disestablishing AFIP by relocating critical military services and terminating civilian-related activities currently provided by AFIP.

¹¹*Id.* at 90 Stat. 934-36 (codified at 10 U.S.C. § 177).

¹²From 1998 to 2002, AFIP was the subject of three program decision memorandums (documents used by DOD for planning and managerial oversight), four major DOD reviews, and two DOD Inspector General reviews.

¹³See Pub. L. No. 107-107, § 3002, 115 Stat. 1012, 1344-45 (2001) (codified at 10 U.S.C. § 2687, note). This law authorized the 2005 BRAC round and revised some of the BRAC procedures. The law also required DOD to publish its final selection criteria in the *Federal Register*, which DOD did in February 2004. See 69 Fed. Reg. 6948-52 (Feb. 12, 2004).

As part of the BRAC process, the Secretary of Defense issued a report containing his realignment and closure recommendations, which were then reviewed by the BRAC Commission.¹⁴ The 2005 BRAC Commission's final report contained recommendations to disestablish AFIP and relocate certain services that AFIP provides. These recommendations became binding as of November 9, 2005. In accordance with BRAC statutory authority, DOD must complete closure and realignment actions by September 15, 2011.¹⁵

AFIP's Key Services Include Consultation, Education, and Research That Benefit DOD, VA, and Civilian Communities

AFIP pathologists perform diagnostic consultations, education, and research services benefiting DOD, VA, and civilian communities. In 2006, AFIP provided over 40,000 consultations, almost half of which were for DOD physicians. AFIP's educational services include live courses, distance learning activities, and texts that draw upon pathology material from the repository with the goal of training physicians in diagnosing the most difficult-to-diagnose diseases. DOD, VA, and civilian physicians use AFIP's educational services, but the civilian community uses AFIP's educational services more extensively than military physicians. Regarding its research services, AFIP pathologists work individually and in partnership with other federal and private researchers using material from the repository to conduct research applicable to military operations as well as to diagnose and treat diseases affecting military and civilian health.

Providing Consultations Is AFIP's Primary Mission, and DOD Is Its Most Frequent Customer

AFIP's primary mission is to provide diagnostic consultations. Its pathologists spend nearly twice as much time providing this service as they do providing education and research services. AFIP pathologists provide consultations for cases referred to them with and without diagnoses. That is, when physicians—clinicians or general pathologists—at civilian, DOD, or VA medical centers cannot make a diagnosis or when they are unsure of their initial diagnosis and are in need of another

¹⁴The BRAC Commission is an independent body that has the authority to change the Secretary's recommendations if it determines that the Secretary deviated substantially from the selection criteria. See Pub. L. No. 101-510, § 2903 (codified as amended at 10 U.S.C. § 2687, note). The commission then makes recommendations to the President for approval or disapproval. After the President approves the recommendations, he transmits them to Congress. The recommendations become binding 45 legislative days after presidential transmission or at the adjournment of Congress, unless Congress enacts a joint resolution disapproving the recommendations.

¹⁵See Pub. L. No. 101-510, § 2904 (codified as amended at 10 U.S.C. § 2687, note).

opinion, they can send the case to AFIP's subspecialty pathologists¹⁶ for diagnostic consultation. According to the American Board of Pathology, there are 10 different areas of subspecialty pathology, such as dermatopathology and forensic pathology. Additionally, pathologists are recognized as subspecialists in other areas of pathology pertaining to particular cancers, such as breast or prostate. Requesting physicians—those who send cases to AFIP in search of diagnostic consultations—typically need consultations for more complex cases that require the additional expertise of a subspecialty pathologist.¹⁷ In the course of providing these diagnostic consultations to the requesting physicians, AFIP receives and is able to add pathology material¹⁸ to its repository. As a result, consultations have been instrumental in expanding the repository.

Over time, AFIP has increased the amount of services provided for DOD and decreased the amount of services provided for civilians. The total number of diagnostic consultations that AFIP provided remained relatively stable from 2000 to 2004. However, as we previously reported, DOD diagnostic consultations provided by AFIP increased by 30 percent from 2000 through 2004, while its civilian consultations decreased by 28 percent.¹⁹ We also reported that nearly all of the decrease in civilian consultations occurred in the 2 years after AFIP announced that it would raise its consultation fees beginning in January 2003. According to AFIP and civilian pathologists, this decrease in civilian diagnostic consultations was also attributed to a more competitive marketplace for obtaining consultations. Additionally, these pathologists also cited the loss of nationally recognized experts at AFIP as another possible reason for the decline in the number of civilian diagnostic consultations being sent to AFIP.

¹⁶Unlike general pathologists, subspecialty pathologists specialize in a particular organ system and gain additional exposure, experience, and expertise in diseases and conditions affecting the tissues of that system than general pathologists.

¹⁷When AFIP receives a case for consultation, staff assign the case to the appropriate subspecialty department based on the requesting physician's indications. AFIP's structure allows pathologists to consult with their colleagues who have expertise in different subspecialties as needed.

¹⁸Pathology material includes paraffin blocks that enclose preserved tissue, gross tissue samples, microscopic glass slides, and clinical records such as X-rays and photographs.

¹⁹[GAO-05-615](#), 22-27.

In 2006, AFIP provided almost half of its consultations to DOD physicians. From 2005 to 2006, AFIP decreased the total number of consultations it provided from 44,169 to 41,582. Consistent with earlier trends from 2000 to 2004, AFIP continued to increase the number and percentage of consultations provided to DOD and decrease the amount provided to the civilian community from 2005 to 2006. (See table 1.) In 2006, the largest percentage of consultations, approximately 48 percent, was conducted for DOD, followed by those for VA and civilian physicians at nearly 27 percent and 25 percent, respectively. AFIP also provided about 1 percent of its consultations for others, which included other federal agencies and foreign military services. While AFIP receives consultation requests from all over the world, consultations are heavily concentrated from more populous states and the East Coast. (See app. II for maps of AFIP's 2006 consultations.)

Table 1: Number and Percentage of AFIP Consultations for Customers, 2005 and 2006

Customer type	2005		2006	
	Consultations	Percentage of total	Consultations	Percentage of total ^a
DOD ^b	19,464	44.1	19,856	47.8
VA	11,520	26.1	11,083	26.7
Civilian	12,708	28.8	10,287	24.7
Other federal agencies ^c	456	1.0	334	0.8
Foreign ^d	21	0.0	22	0.1
Total	44,169	100.0	41,582	100.0

Source: GAO analysis of DOD data.

^aDoes not add to 100 due to rounding.

^bIncludes the Army, Navy, and Air Force.

^cIncludes the Department of Health and Human Services, Department of Homeland Security, and others.

^dIncludes consultation requests from physicians from other countries, such as countries in Europe, Africa, or Asia.

In 2006, about 62 percent (25,621) of AFIP's cases were for consultations where AFIP pathologists reviewed the initial diagnoses from DOD, VA, civilian, or other physicians for confirmation or change. For these cases, AFIP pathologists changed the initial diagnoses from requesting physicians

in 10,987 cases, or about 43 percent of the time. For the remaining 57 percent of the cases (14,634), AFIP confirmed the requesting physicians' initial diagnoses.²⁰ When AFIP's diagnoses differ from the requesting physicians' initial diagnoses, it classifies the changes as either minor or major. According to AFIP, a minor change often involves a change in severity of the condition diagnosed or the choice of appropriate therapy. For example, the initial diagnosis may have correctly identified a tumor as malignant but may have assigned an incorrect type or level of aggressiveness, which could affect treatment and prognosis. In addition, AFIP classifies a change as major if it involves a change in the nature of the condition diagnosed. For example, a major change would include changing a diagnosis from malignant to benign. Both minor and major diagnosis changes can lead to a different treatment and, ultimately, a different outcome for the patient. As shown in table 2, most of AFIP's changes to initial diagnoses that were provided by requesting physicians were classified by AFIP as minor changes.

Table 2: Consultation Outcomes Where an Initial Diagnosis Was Provided, for 2006

Outcome	Consultations	Percentage of total ^a
Initial diagnosis confirmed	14,634	57.1
Minor change ^b	10,116	39.4
Major change ^b	871	3.4
Total	25,621	100.0

Source: GAO analysis of DOD data.

^aDoes not add to 100 due to rounding.

^bMinor and major changes were classified as such by AFIP.

The type of consultations DOD, VA, and civilian physicians seek from AFIP differ somewhat, both in terms of the number of cases sent without a diagnoses and the type of pathology expertise requested. For example, 47 percent of DOD's consultation requests were sent without an initial diagnosis, compared to 27 percent from VA and 31 percent from civilian physicians. This may be due, in part, to the type of expertise DOD and civilian physicians most commonly need, which also differs. For example, in 2006, almost a quarter of all DOD consultations were in the area of

²⁰ According to AFIP pathologists, confirmation of an initial diagnosis is important because physicians seeking a consultation generally do not begin treating a patient until another pathologist confirms that the initial diagnosis is correct.

forensic toxicology, which includes examining material from autopsies and testing biological specimens for alcohol and drugs. However, VA physicians most frequently requested AFIP's environmental toxicology diagnostic consultations, while civilian physicians most frequently requested hepatic consultations—involving diseases of the liver—as well as gastrointestinal consultations. The other consultation service most frequently requested by DOD, VA, and civilian pathologists was for dermatopathology—or the interpretation of skin biopsies.

AFIP Provides Varied Educational Services, Used Primarily by Civilian Physicians

AFIP, in conjunction with ARP, offers a variety of courses, conferences, and other educational services, generally for physicians, and tailors its curriculum to the most common as well as the most difficult-to-diagnose diseases. AFIP staff design and conduct live and distance learning courses that aid physicians in expanding their medical knowledge as well as fulfilling their state licensure requirements for CME credit. AFIP's educational services cover a range of topics in the fields of pathology, radiology, and veterinary pathology, with particular emphasis on identifying emerging diseases, offering new insights into known diseases, and giving hands-on experience in diagnosing difficult cases. In developing material for conferences, courses, and texts, AFIP staff query a database of recent consultations searching for the most common missed diagnoses—that is, those cases in which the requesting physician misdiagnosed the case, as well as diagnoses in which the requesting physician most frequently did not make an initial diagnosis.

In 2006, AFIP, in conjunction with ARP, offered 28 formal courses, 24 video teleconferences, and 4 Web-based courses. These courses qualify for CME credit, which assists DOD, VA, and civilian pathologists and other physicians in fulfilling state requirements for maintaining their medical licenses.²¹ Civilian physicians use AFIP's training services more extensively than DOD and VA physicians. In 2006, 61 percent of the students attending AFIP's CME courses were civilians, 34 percent were DOD attendees,²² and 5 percent were from VA. Most live CME courses are attended predominantly by civilians. For example, in 2006, 96 percent of

²¹In 2006, AFIP offered six courses, including the Radiologic-Pathologic Correlation course, targeted to medical residents. Practicing physicians are permitted to attend any of AFIP's courses for residents and may earn CME credit for attendance.

²²DOD attendees include both active duty military personnel and physicians employed by DOD as federal government employees.

the residents who attended the Radiologic-Pathologic Correlation course were civilians. However, some courses are solely attended by military health professionals because they involve issues specific to DOD or because AFIP does not allow civilians to attend classes such as its Air Force Medical Forensic Sustainment course. Overall, AFIP's courses have attracted instructors and students from around the world. In 2006, individuals representing over 70 institutions, including the Federal Bureau of Investigation, the National Institutes of Health, private academic institutions and medical centers, and MTFs participated in AFIP's CME program.

According to military pathologists, AFIP's distance learning programs are a convenient and economical way to obtain CME requirements and fulfill state licensure requirements. AFIP's distance learning programs include AskAFIP, an online database maintained and operated by AFIP. To hone diagnostic skills, AskAFIP allows users to query a database that contains information from AFIP's collection of specific diagnoses, texts, case materials, and images from the repository. DOD, VA, and civilian physicians have access to AskAFIP. Also, as part of its distance learning educational services, AFIP's pathologists review diagnoses provided by VA pathologists—known as the Systematic External Review of Surgicals program.²³

In addition to offering courses, in conjunction with ARP, AFIP publishes examples of clinical-pathologic correlations, which describe the relationships that exist between the clinical symptoms or attributes exhibited by a patient and the pathological abnormalities of a specific disease or type of tumor. These correlations are published in texts called fascicles,²⁴ which DOD, VA, and civilian pathologists told us are a primary reference source and serve as an important, frequently used tool as they

²³Unlike the consultation process, the Systematic External Review of Surgicals program is a peer review or quality assurance process. VA policy requires its pathologists to submit cases—in which the VA pathologist already rendered a diagnosis—to AFIP. Then, AFIP subspecialty pathologists review the rendered diagnosis for quality review purposes and provide feedback to the pathologist who submitted the case in an effort to improve the practice of pathology.

²⁴ARP holds the copyright for these fascicles.

practice pathology.²⁵ The fascicles are updated to capture the more recent developments in pathology.

AFIP's Research Benefits DOD, VA, and Civilians

The combination of unique case material and expertise of AFIP pathologists facilitates AFIP's research that benefits DOD, VA, and civilian medicine and results in hundreds of publications each year. Research is conducted by AFIP pathologists, as well as by other federal and private researchers in collaboration with AFIP pathologists, primarily using material from the repository.²⁶ All outside researchers are required to collaborate with an AFIP pathologist in order to access AFIP's materials.

The repository contains over 3 million disease specimens and their accompanying case histories dating back over 150 years. Because of the large volume of cases in the repository, researchers can conduct studies of considerable sample size. Since AFIP receives pathology material for many difficult-to-diagnose diseases, the repository contains complex and uncommon cases that have accumulated over time. Studying these samples allows for advances in diagnosis and treatment of diseases. For example, AFIP has accumulated a large collection of gastrointestinal stromal tumors, a relatively uncommon tumor. Recent studies involving this collection have led to advances in the identification of, and therapy for, this tumor. One of the responsibilities of AFIP pathologists is to classify the material that AFIP receives into the repository so that researchers can access it in the future. As medical knowledge evolves, AFIP pathologists reclassify material in the repository to better characterize it for future use. AFIP staff are also in the process of putting material from the repository in digital form to expand its use for research.

AFIP conducts and collaborates on research applicable to military operations and general medicine, so its research affects DOD, VA, and civilian communities. Although "militarily relevant" research has not been well-defined, AFIP staff said it generally includes subjects of direct interest to the military. For example, according to AFIP staff, research

²⁵There are different types of fascicles, for example *Tumors of the Kidney, Bladder, and Related Urinary Structures* and *Non-Neoplastic Disorders of the Lower Respiratory Tract*.

²⁶AFIP also maintains, in conjunction with ARP, over 30 international registries, such as Depleted Uranium, Agent Orange, and tumor registries. A comprehensive database of disease diagnoses and patient demographic data, incorporating all cases ever reviewed at AFIP, is available to researchers.

conducted in collaboration with the Armed Forces Medical Examiner has led to developments such as improved body armor and acute care of wounded personnel. Further, AFIP conducts and collaborates on infectious disease and cancer research, which has applicability for the civilian community as well. AFIP's infectious disease research has focused on the characterization of potentially epidemic organisms, such as severe acute respiratory syndrome, as well as on the development of improved vaccines and the detection of biologic toxins, such as those that may be used in biological warfare. AFIP's cancer research, including breast, gynecologic, and prostate cancers, has resulted in more accurate diagnosis and development of better treatment methods. Table 3 provides examples of AFIP's research projects, including their impact.

Table 3: Examples of AFIP's Research Projects

Research project	Description
Body armor	AFIP conducted a study examining full autopsies on U.S. troops killed in Iraq and Afghanistan from March 2003 to mid-2005. Investigators found that 80 percent of the fatalities could have been prevented by better protection for the shoulder, back, chest, and side areas. As a result, DOD decided to redesign body armor.
Thoracic needle	AFIP conducted a study examining why field medics' procedures to treat collapsed lungs were not working. Researchers discovered that a soldier's muscle thickness is greater than the average person's muscle thickness. As a result, DOD now uses thicker, longer needles to penetrate the lung.
Spanish influenza	The 1918 influenza pandemic killed more than 50 million people worldwide. AFIP pathologists were able to decode the genetic sequence of the 1918 strain by examining tissue samples in the repository from World War I soldiers who had died of the disease in 1918. Understanding the genetic sequence of this influenza virus could aid in predicting future influenza pandemics and in developing interventions and treatment of virulent influenza viruses.
Reye syndrome	Reye syndrome primarily affects children, causing sudden brain damage and liver function problems. AFIP pathologists found that Reye Syndrome was associated with the use of aspirin to treat chickenpox or upper respiratory infection in children. As a result of understanding this association, the Food and Drug Administration issued a package insert for aspirin warning against prescribing aspirin to infants and children with chickenpox or flu. There has been a sharp decline in the number of infants and children with Reye Syndrome since this discovery, and it is now very rare.

Source: GAO analysis of DOD data.

The research conducted at AFIP results in hundreds of publications per year, but it has been declining. For example, in 2005 researchers at AFIP published 174 peer-reviewed articles and 121 abstracts, and in 2006 researchers at AFIP published 145 peer-reviewed articles and 73 abstracts. In a previous GAO report, we found that from 2000 through 2004, the number of research protocols at AFIP declined from 371 to 296.²⁷ AFIP

²⁷See [GAO-05-615](#). A research protocol is a detailed proposal, approved by AFIP's research committee, which describes the research that will be completed.

staff said that they began to focus on increasing militarily relevant research and reducing DOD-funded civilian-focus research as early as 2001.

DOD Has Specific Plans to Terminate Most Services Currently Provided by AFIP and Is Developing Plans to Relocate the Others

The 2005 BRAC provision specifies that AFIP be disestablished. Accordingly, most services currently provided by AFIP will be terminated and other services will be relocated or outsourced. Specifically:

- DOD plans to outsource second-opinion consultations and some initial diagnostic consultations to the private sector through a newly established PMO.
- With the exception of two educational courses, DOD does not plan to retain and relocate the educational programs currently offered by AFIP.
- DOD plans to halt AFIP's research and realign the repository, which is AFIP's primary research resource, to the Forest Glen Annex, Maryland, under the management of USUHS.

The BRAC provision allows DOD the flexibility to retain capabilities that were not specifically addressed in the provision. In accordance with this statutory authority, the ASD(HA) has retained four additional AFIP services and is considering whether to retain six others. According to DOD's most recently developed implementation plan, dated February 2007, DOD had planned to begin implementation of the BRAC provision relating to AFIP in July 2007 and to complete action by September 2011. However, a provision from the 2007 supplemental appropriations act prevents DOD from reorganizing or relocating any AFIP functions until after DOD has submitted detailed plans and timetables for the proposed reorganization and relocation to Congress.²⁸ Once the reorganization plan has been submitted, DOD can resume reorganizing and relocating AFIP.

Most of AFIP's Services Will Be Terminated, but Some Will Be Relocated

DOD plans to terminate AFIP's provision of diagnostic consultations and outsource certain DOD diagnostic consultations to the private sector through a newly established PMO. More specifically, the BRAC provision

²⁸Section 3702 of the appropriations act requires DOD to take into account this GAO report as it develops its detailed plan and timetable for the proposed reorganization and relocation of AFIP, if this GAO report is available on or before November 16, 2007. This effectively suspends the disestablishment and relocation of AFIP services until DOD submits its plan to Congress; the deadline for submission is December 31, 2007.

requires that the PMO be established at the new Walter Reed National Military Medical Center in Bethesda, Maryland,²⁹ to coordinate pathology results, contract administration, quality assurance, and control of DOD second-opinion consults worldwide. DOD plans to relocate sufficient personnel from AFIP to the new PMO to conduct its activities.³⁰ Further, DOD's justification for this provision states that DOD will also rely on the civilian market for providing initial diagnoses when the local pathology labs' capabilities are exceeded.

In determining the legal implications of the BRAC provision with respect to consultation services, DOD's Office of General Counsel concluded that military second-opinion consultations as currently provided by AFIP would not be subject for retention because the PMO would be required to outsource these consultations. Initial diagnoses would either be provided by military pathologists or possibly military subspecialty pathologists at MTFs when possible or outsourced through the PMO. Although the PMO would not coordinate civilian diagnostic consultations, DOD has not determined whether it would allow VA or other federal agencies to obtain diagnostic consultations—either initial or second-opinion—through the PMO. The PMO working group, including DOD and VA officials, met in August 2007 to discuss the establishment of the PMO.

Regarding the retention of educational services, DOD does not plan to relocate any educational services currently offered by AFIP with the exception of the enlisted histology technician training and the DOD Veterinary Pathology Residency Program. The BRAC provision requires DOD to relocate the enlisted histology technician training to Fort Sam Houston, Texas. The DOD Veterinary Pathology Residency Program would be relocated to Forest Glen Annex, Maryland.

With respect to the research, DOD plans to realign the repository, which is AFIP's primary research resource, to Forest Glen Annex, Maryland, to be managed by USUHS. USUHS issued a Request for Proposal in May 2007, for the purpose of contracting for a review of the quality of the pathology

²⁹The BRAC Commission recommended that DOD realign Walter Reed Army Medical Center, Washington, D.C., as follows: relocate all tertiary (subspecialty and complex care) medical services to National Naval Medical Center, Bethesda, Maryland, establishing it as the new Walter Reed National Military Medical Center, Bethesda, Maryland.

³⁰Emphasis would be placed on preserving AFIP consultation services to military and other federal customers until the PMO is operational, with earlier disestablishment of AFIP research and education activities.

material and associated case records contained in the repository. USUHS officials told us that they will make further decisions regarding laboratory and storage facility requirements for the repository, as well as plans for staffing and research uses, when the evaluation is complete. Pending the outcome of this review, USUHS may employ 10-12 pathologists who would spend the majority of their time on research; these pathologists would also be responsible for classifying pathology material in the repository.

Aside from the AFIP services discussed above, the BRAC provision required that some of AFIP's other services be retained by DOD and relocated into other facilities. For example, the provision requires relocating Legal Medicine to the Walter Reed National Military Medical Center in Bethesda, Maryland, and the relocation of the Armed Forces Medical Examiner, DNA (deoxyribonucleic acid) Registry, and Accident Investigation to Dover Air Force Base, Delaware.

As part of its review regarding the disestablishment of AFIP, the BRAC Commission found that the medical professional community regarded AFIP and its services as integral to the military and civilian medical and research community. The commission also found that DOD substantially deviated from its selection criteria by failing to sufficiently address several AFIP functions. As a result, the commission amended DOD's initial recommendation to add that AFIP capabilities not specified in the final recommendation would be absorbed into other DOD, federal, or civilian facilities, as necessary. The revised language was approved by the President as part of the final BRAC provision. As revised, DOD has the flexibility to review AFIP capabilities or services not specifically addressed in the BRAC provision to determine which functions to retain.

As a result of the amendment, the ASD(HA) informed key DOD officials³¹ in a November 16, 2006, memorandum that he had approved the retention of four services—the DOD Veterinary Pathology Residency Program, Automated Central Tumor Registry, Center for Clinical Laboratory Medicine, and Patient Safety Center. He also informed them that the remaining AFIP services would be disestablished unless any of the key officials identified the need to retain specific services. Based on responses from the key officials, an additional six AFIP services were recommended

³¹These key DOD officials include the Surgeon General of the Army, Surgeon General of the Navy, Surgeon General of the Air Force, President of USUHS, and Deputy Director of TRICARE Management Activity.

for retention. As of September 2007, the ASD(HA) had not made a final decision on them. These six services include diagnostic telepathology, two biodefense projects, reserve biological select agent inventory, depleted uranium (DU) testing, and cystic fibrosis testing. In addition, VA expressed an interest in having DOD retain the DU testing capability. Table 4 summarizes AFIP services that will be relocated or established as specified in the BRAC provision, those that were subsequently added by the ASD(HA) to be retained, and those that were recommended for retention by the DOD officials and are awaiting final decision. (See app. III for a description of services currently performed by AFIP that are to be retained and relocated, or newly established, or are awaiting final decisions.)

Table 4: Services Currently Performed by AFIP That Are to Be Retained and Relocated, or Established, or Are Awaiting Final Decisions

Service	Proposed locations^a
Services required to be retained by the BRAC provision	
Legal Medicine	Walter Reed National Military Medical Center, Md.
National Museum of Health and Medicine	Walter Reed National Military Medical Center, Md., managed by Uniformed Services University of the Health Sciences (USUHS), Md.
Repository	Forest Glen Annex, Md., managed by Uniformed Services University of the Health Sciences (USUHS), Md.
Armed Forces Medical Examiner, DNA Registry, and Accident Investigation	Dover Air Force Base, Del.
Enlisted histology technician training	Fort Sam Houston, Tex.
Service to be established as specified by BRAC provision	
Program Management Office (PMO)	Walter Reed National Military Medical Center, Md.
Services designated for retention by ASD(HA)	
DOD Veterinary Pathology Residency Program	Forest Glen Annex, Md.
Automated Central Tumor Registry	Forest Glen Annex, Md. managed by Uniformed Services of the Health Sciences (USUHS), Md.
Center for Clinical Laboratory Medicine	Walter Reed National Military Medical Center, Md.
Patient Safety Center	Walter Reed National Military Medical Center, Md.
Services being considered for retention by key DOD officials and awaiting a final decision	
Diagnostic telepathology	Walter Reed National Military Medical Center, Md., or Fort Belvoir, Va. ^b
Biodefense Project – Joint Biological Agent Identification and Diagnostic System	Fort Detrick, Md.
Biodefense Project – Critical Reagent Program	Aberdeen Proving Ground, Md. ^b
Reserve Biological Select Agent Inventory	Aberdeen Proving Ground, Md. ^b
Depleted uranium testing	Aberdeen Proving Ground, Md. ^b
Cystic fibrosis testing	Outsourced

Source: GAO analysis of DOD data.

^aThe new locations of Legal Medicine; the Armed Forces Medical Examiner, DNA Registry, and Accident Investigation; and enlisted histology technician training were specified in the BRAC provision.

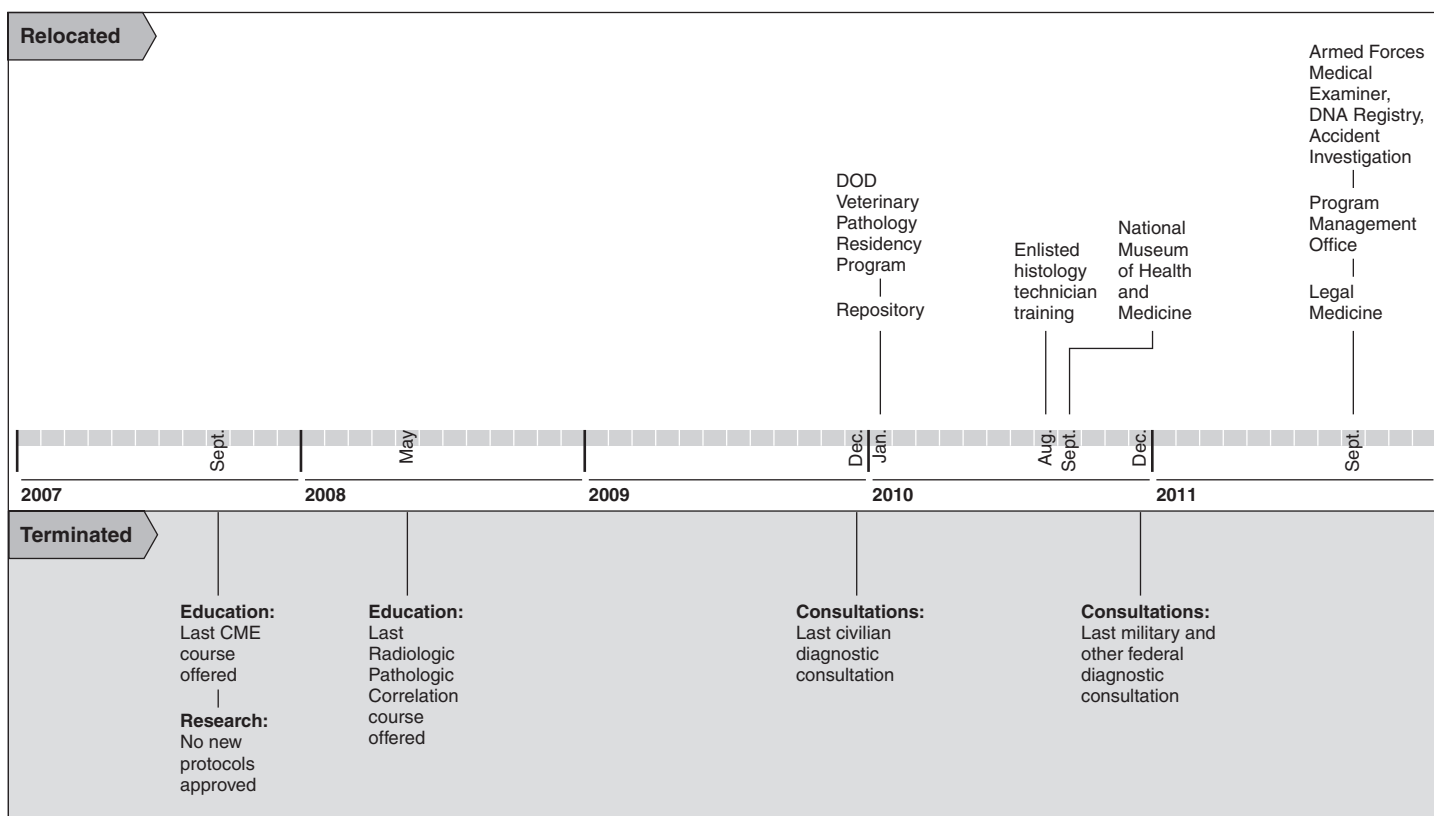
^bAs of September 2007, DOD had not finalized decisions regarding the locations of these services.

Planned Implementation to be Completed by 2011

According to DOD's most recently developed implementation plan,³² execution of the BRAC provision regarding AFIP was scheduled to begin in July 2007 and be complete by September 2011. Figure 1 summarizes DOD's plans to terminate AFIP's three key services by December 2010. It also illustrates DOD's timeline that would have relocated other AFIP services that were designated to be retained by the BRAC provision. Several rounds of staff reductions were anticipated to occur as DOD terminated or relocated AFIP services. As figure 1 shows, DOD's plans left a lag time between when AFIP DOD diagnostic consultations ended in December 2010 and when the PMO was expected to be operational in September 2011.

³²DOD's most recent BRAC implementation plan pertaining to AFIP was developed in February 2007.

Figure 1: DOD's Proposed Timeline for BRAC Implementation Pertaining to AFIP



Source: GAO summary of AFIP data.

Implementation of these plans were put on hold by the requirements of section 3702 of the fiscal year 2007 supplemental appropriations act, which suspended all BRAC actions affecting AFIP until after DOD submits detailed plans to the House and Senate Appropriations and Armed Services Committees, which are due by December 31, 2007. DOD officials acknowledge that the timeline as envisioned in their February 2007 implementation plan can no longer be met and the full amount of onetime savings from disestablishment of AFIP will not be realized, although they believe that they may still be able to complete all actions required by the BRAC provision by 2011.

While DOD is required to share more information regarding its plans with Congress before the end of the year, other developments could impact the implementation of those plans. Specifically, on May 17, 2007, the House

passed H.R. 1585, a bill for the National Defense Authorization Act for Fiscal Year 2008, which contains a provision that would require DOD to establish a “Joint Pathology Center” at the National Naval Medical Center in Bethesda. On October 1, 2007, the Senate passed its version of the same bill. However, the Senate-passed version contains a provision that would authorize, rather than require, DOD to establish a Joint Pathology Center at Bethesda, “to the extent consistent with the final recommendations of the 2005 [BRAC] Commission as approved by the President.” If a new Center is established under either provision, it would be required to provide diagnostic pathology consultation, pathology education, and diagnostic pathology research. In addition, the Senate bill would require that the Center, if established, provide maintenance and continued modernization of the tissue repository. As of the publication of this report, the House and Senate had not reached agreement at conference on any provision related to a new Joint Pathology Center.

Closing AFIP May Have Minimal Effect, but Management Strategy Is Important to Address Key Challenges

Although AFIP is a noted center for pathology expertise, closing AFIP may have minimal effect on DOD, VA, and civilian communities because pathology services are available to them elsewhere. However, a smooth transition depends on DOD’s actions to address key challenges involved in developing new approaches to obtaining subspecialty pathology consultations and managing the repository to facilitate its use for research. DOD and VA officials have begun to identify the challenges, but have not decided upon strategies to address them.

DOD, VA, and Civilian Physicians May Be Able to Obtain Key Services from Other Institutions

In large part, DOD, VA, and civilian pathologists may be able to obtain services elsewhere to replace those currently provided by AFIP.

Diagnostic consultations: Other medical institutions currently provide diagnostic consultations that require subspecialty expertise. For example, Massachusetts General Hospital (Boston, Massachusetts) and M. D. Anderson Cancer Center (Houston, Texas) each provide about 60,000 or more pathology consultations per year. While AFIP has many different subspecialty areas, major civilian medical institutions, such as The Johns Hopkins Hospital (Baltimore, Maryland) and Memorial Sloan-Kettering Cancer Center (New York, New York) have from 10 to 17 different

subspecialty areas, respectively.³³ Pathologists we interviewed emphasized the importance of being able to obtain consultations from expert pathologists, wherever they may work. They also stated that pathologists with particular expertise who move from AFIP to the private sector may be able to continue to provide consultations from whichever institutions they may join. Most DOD and VA pathologists noted that even though MTFs and VA medical centers can readily access AFIP consultations without incurring additional fees, they already use subspecialty pathologists from civilian medical institutions on occasion for consultations due to their needs for particular subspecialty expertise and concerns about obtaining a diagnosis in a timely manner. In addition, some MTFs have subspecialty pathologists who can provide consultations for other military physicians. For example, Brooke Army Medical Center and Wilford Hall Medical Center—both located in San Antonio, Texas—each have over seven different subspecialty areas. According to pathologists from the five MTFs we interviewed, subspecialty pathologists from their centers currently provide consultations to other nearby MTFs.

Pathology education: Other institutions also provide pathology education. For example, CAP offers educational courses covering a range of topics such as histotechnology and molecular pathology. DOD, VA, and civilian pathologists that we interviewed told us that they have fulfilled CME requirements through other institutions and could continue to do so. Pathologists we interviewed said that DOD and VA pathologists generally make independent decisions about which classes to attend and how to meet accreditation requirements. Military pathologists we interviewed also said that due to limited budgets, pathologists generally do not travel to AFIP to attend courses because other pathology organizations, such as CAP, offer CMEs that are accessible without the need to travel. Most DOD, VA, and civilian pathologists we interviewed said that AFIP's Radiologic-Pathologic Correlation course is unique and valuable to the radiology profession. Some of the pathologists we interviewed said that this is because the course utilizes the expertise of physicians who work with pathology material from a large volume of difficult-to-diagnose cases,

³³The American Board of Pathology recognizes 10 different areas of subspecialty pathology such as cytopathology, dermatopathology, and forensic pathology. Other areas of specialty expertise are recognized by military and civilian pathologists from major medical centers we interviewed such as genitourinary, gynecology, and breast pathology. Thus, military and civilian medical centers determine the number of subspecialties they have in accordance with the different subspecialties recognized by the American Board of Pathology as well as those that focus on particular cancers.

requires attendees to bring unique specimens for class analysis and discussion, and utilizes material from AFIP's repository, which houses a comprehensive collection of specimens. Further, many pathologists and representatives from radiology organizations told us that it is the most common way radiology residents fulfill a requirement to have specific training in pathology. Although the course is recognized as being unique, according to guidance set forth by the Accreditation Council for Graduate Medical Education, radiologists could fulfill their accreditation requirements through avenues other than AFIP. In addition, according to DOD officials, it is not DOD's mission to train civilian radiology residents, although we believe that DOD could be in a position to assist outside groups if any expressed interest in becoming responsible for maintaining the course.

Research services: The type of research historically conducted by AFIP could be conducted at other institutions or by pathologists who remain with DOD. USUHS will continue to perform militarily relevant, biomedical research, focusing on health promotion and disease prevention, as it gains responsibility for the repository—AFIP's primary research tool. Additionally, the Office of the Armed Forces Medical Examiner has also been responsible for conducting research applicable to military operations. Because it is being retained, it could continue to do so. Also, AFIP has partnered with other government, academic, and private sector institutions to carry out research services. Specifically, AFIP staff have conducted research affecting general medicine through collaborations with external organizations, such as The Johns Hopkins Hospital and the Mayo Clinic. These organizations will likely continue to fund medical research and could possibly continue to conduct research using pathology material from the repository. Although USUHS has not finalized its plans regarding the repository, its intent is to make the pathology material accessible to others including civilian researchers, to the extent it is approved by DOD, practicable, and legally feasible.

DOD Faces Challenges in Ensuring That Military Physicians' Access to Subspecialty Consultation Services Is Maintained at a Reasonable Cost

Given that AFIP is a central source that provides its customers with definitive consults on the most difficult-to-diagnose cases, DOD and VA pathologists face challenges in obtaining similar consultative expertise once AFIP is disestablished. These challenges include determining how to effectively use existing subspecialty pathology resources, obtain outside expertise, and ensure coordination and funding of services to encourage efficiency while avoiding disincentives to quality care. In addition, DOD must decide whether VA could obtain consultation services through the PMO and whether VA will be able to provide some subspecialty pathology

expertise for DOD. While DOD and VA officials have begun the process to identify these challenges, as of mid-August 2007, they had not yet developed management strategies to mitigate them.

Effective utilization of existing resources: While DOD officials told us that they might be able to perform some in-house diagnostic consultations for MTFs, they have not evaluated their existing medical resources to determine the extent to which such consultation services can be performed. According to DOD officials, some large MTFs have subspecialty expertise and might be able to absorb some of the demand for consultations, but DOD has not identified the potential volume and type of consultations that these large MTFs could absorb. Further, DOD pathologists expressed concerns that MTFs would not be able to absorb many additional consultations without increasing the number of subspecialty pathologists staffed at MTFs. This could be challenging, they said, because it is difficult to retain pathologists within the military. Because DOD is retaining some of its pathology capabilities from AFIP under the BRAC provision, such as the Armed Forces Medical Examiner, it will continue to have expertise available to provide services in the area of forensic toxicology—DOD’s most frequently used consultation service in 2006. Further, several DOD officials were concerned that the DOD General Counsel’s interpretation of the BRAC provision requiring outsourcing through the PMO would preclude DOD from providing second-opinion consultations from expertise within its MTFs. In addition, although VA may be able to absorb some of its own consultations using its subspecialty pathologists, including those who are currently assigned to AFIP, VA pathologists told us that VA is limited in how many additional consultations its current subspecialty pathologists could provide.

The PMO process: How the PMO functions and obtains diagnostic services from medical centers outside DOD and VA has important implications, both from a quality of care and a cost standpoint. DOD and VA officials we interviewed indicated that DOD faces challenges in developing the new PMO that can outsource for quality pathology services; such challenges involve issues related to the timeliness of consultations and the ability to obtain appropriate expertise at a reasonable cost. As of August 2007, DOD has not formulated its management strategies for addressing the following issues concerning how the PMO will function.

- **Assisting other federal agencies with obtaining consultations.** Although DOD has discussed the possibility that the PMO could include VA in outsourced diagnostic consultations, no decisions had been made as of mid-August 2007. Since VA has received over a quarter of AFIP’s total

consultations, VA officials have expressed an interest in continuing to receive consultations through the PMO once DOD discontinues offering AFIP consultations. VA officials also expressed concerns about the cost of obtaining consultations outside of AFIP, which they estimated to be much greater than the financial support it currently provides to AFIP for its services. In addition, the officials stated that AFIP has been responsible for VA's DU program,³⁴ and as of June 2007, VA officials were uncertain about the extent to which staff and equipment providing these services would be sufficient to meet the future needs. VA officials stated that their agency did not have the equipment or expertise to conduct the analyses needed for this program, and for testing of other types of embedded fragments, such as cobalt, nickel, and tungsten. VA officials indicated that testing for DU and other potentially harmful embedded fragments plays an important role in providing high quality health care to recently injured combat veterans. As we previously discussed in this report, DOD officials are considering the possibility of retaining DU testing.

- **Obtaining consultation services.** Several military pathologists expressed concerns about the challenges DOD and VA would face in identifying and obtaining needed subspecialty expertise from pathologists. These concerns stem, in part, from their understanding of AFIP's capabilities to provide consultations for difficult-to-diagnose cases by involving different types of subspecialty pathologists as needed. Within AFIP, cross-consultation among experts is available under one roof. As DOD will have to determine a new method for obtaining consultations using the PMO, military pathologists expressed concerns that it might be more difficult to access expertise dispersed among different institutions to obtain accurate diagnostic information. DOD and VA pathologists also expressed concerns regarding whether continuity of patient care would be maintained for retired military personnel if pathology specimens from active duty personnel and veterans are no longer sent to one central laboratory, such as AFIP. At present, if a patient has had a previous consultation, the material is available from the repository for comparison if AFIP is requested to conduct another consultation at a later date for the same patient. This can be important for the patient's care—for example, in

³⁴The VA DU program is responsible for providing clinical surveillance to veterans and active duty personnel who have the highest risk of DU exposure (primarily those with retained DU fragments). Currently, the DU program relies on AFIP to perform analyses of specimens from veterans and active duty personnel potentially exposed to DU. The AFIP laboratory is one of the few facilities nationwide that are able to measure very low concentrations of uranium in urine, blood, and semen specimens with a high degree of accuracy and to discriminate between natural uranium and depleted uranium based on isotopic analysis.

determining if a patient's cancer is metastasizing or if a precancerous condition is worsening. AFIP pathologists expressed concern that patient care could be compromised if the pathologists providing consultations could no longer obtain their patients' previous specimens, slides, or case notes from the repository. In addition, according to an AFIP pathologist, the repository is particularly valuable for AFIP's consultation services because it can serve as a reference tool to compare pathology material from one patient to that of many others to confirm a diagnosis. VA and AFIP pathologists have raised concerns about whether alternate sources of consultation services obtained through the PMO will be able to provide the same continuity or quality of service unless pathologists from these alternate sources can use the repository as a reference. Further, DOD pathologists expressed concern about whether private sector institutions with the best subspecialty pathology expertise can absorb the 40,000 consultations that have been conducted by AFIP annually. DOD pathologists also indicated that as of August 2007, DOD had not yet developed a management strategy to address this challenge.

- **Timeliness of consultation services.** DOD pathologists we interviewed are also concerned that obtaining consultations may take longer than it does under AFIP because it is unclear how DOD will identify and obtain needed pathology expertise. Timeliness of consultation services is important. For example, understanding the aggressiveness and particular stage of a cancer in a given point in time can influence patient treatments and outcomes. Some pathologists also anticipate that turnaround time for DOD's consultations may increase due to difficulty coordinating among pathologists with varied subspecialty expertise that are dispersed among different institutions and that this could impair the quality of services that DOD obtains. As of August 2007, DOD had not outlined the management strategy that it will pursue to ensure timely access to consultative services.
- **Funding mechanisms.** DOD pathologists' access to subspecialty pathology expertise can also be impacted depending on how DOD plans to mitigate funding incentives related to centralization or decentralization of the budget. According to DOD officials, as of July 2007, DOD had not made decisions regarding whether the budget for consultations would be maintained centrally at the PMO or if each MTF would receive a separate budget for outsourced consultations. Because DOD pathologists did not have to pay for AFIP's consultation services, there was no financial disincentive to use them. Several pathologists we interviewed expressed concern that decentralized funding for consultation services would create disincentives to obtaining consultations and could ultimately affect the quality of the medical care the military would receive for such services. More specifically, these officials asserted that a decentralized funding

system would require a Department of Pathology Chair within an MTF to scrutinize the department's competing demands for resources and make decisions about whether to obtain outside pathology expertise or spend financial resources on other patient care needs. VA pathologists also expressed concern that funding issues could contribute to increasing the difficulty of obtaining subspecialty consultations. If pathologists cannot obtain subspecialty consultations when they are unsure of their diagnosis, patients might be misdiagnosed. This is particularly relevant since, as we discussed earlier in this report, AFIP has changed requesting physicians' initial diagnoses for about 43 percent of the cases it reviews.

- **Minimizing costs of services through volume discounts.** By working with VA, DOD could further increase its economies of scale by purchasing a higher volume of consultation services. However, several DOD and VA pathologists expressed concerns that if DOD chooses to obtain services from the lowest bidder, the quality of consultations could be compromised. They informed us that large national laboratories would likely be the lowest bidders, but these institutions might lack the subspecialty expertise to provide the best services. In fact, such large national laboratories currently use AFIP consultation services. Further, DOD pathologists we interviewed expressed concern for their patients' care with respect to whether DOD would obtain the best subspecialty consultations possible.

DOD has formed a working group, which met for the first time in August 2007, to address issues pertaining to obtaining consultations. This group includes representatives from the Offices of the Surgeons General of the Army, Navy, and Air Force, as well as other DOD and VA officials. According to DOD officials, the workgroup spent its first meeting identifying the challenges faced by DOD in obtaining needed expertise but had not yet developed specific options to address the challenges.

Research Could Be Affected Depending on How DOD Plans to Populate, Maintain, and Use the Repository in the Future

Because DOD has not developed its strategy regarding how it will populate, maintain, and use the repository, some pathologists we interviewed were concerned about the future of the repository and whether it would continue to be a viable research tool. Recently, USUHS awarded a contract to study the usefulness of the pathology material in the repository.³⁵ According to DOD, once that study is completed in October 2008, USUHS plans to convene a panel of experts to develop a blueprint on how to use the repository for research, and then will likely contract for development of a detailed plan on how to best populate, manage, and use the repository. USUHS does not intend to finalize key decisions until that process is complete.

USUHS officials told us that one of the challenges they face in the future is how they will populate pathology material in the repository in order to maintain its viability as a research tool. They explained that AFIP generally populates its repository through pathology material obtained from its consultation services. As a result, the repository includes material from the DOD, VA, and civilian populations. Additionally, AFIP's Radiologic-Pathologic Correlation course has historically contributed to the growth of pathology material in the repository because students, who are primarily civilians, are required to submit samples to AFIP that have pathologic significance. We estimate that the repository gains approximately 1,200 to 2,400 samples per year from students attending this course. Pathologists we interviewed explained that the value of the material in the repository is related to the number of cases it accumulates for a particular disease. That is, in order for a researcher to be able to identify the characteristic patterns of a disease allowing for its diagnosis and treatment, there must first be a sufficient number of cases of the particular disease. USUHS officials told us that due to the large volume of cases that AFIP accumulated in the repository, including complex cases, researchers can currently conduct studies of considerable sample size. Thus, the manner in which USUHS plans to continue to accumulate material in the repository can influence the pace of research.

Because USUHS does not provide pathology consultations, in the absence of civilian consultations it will need to develop other strategies to populate the repository. The strategy that USUHS officials discussed with us was to

³⁵The study of the material in the repository would include a review of the physical tissue samples (i.e., clinical records, blocks of tissue embedded in paraffin, slides, and gross samples of tissue) and the quality of the linkage between the medical record and tissue samples.

populate the repository with specimens from military hospitals. Populating the repository in this manner, however, could skew the repository since military hospitals generally draw patients that are largely young, male, and active. This could decrease the usefulness of the repository, ultimately affecting the breadth of research. As a result, it is important that USUHS develop a strategy to determine how it will populate the repository, considering both the quantity of pathology material for each disease as well as the quality and type of material from which it draws.

DOD, VA, and civilian pathologists we interviewed also recognize that proper maintenance of pathology material is necessary for retaining the repository's optimal usefulness. Specifically, as medical knowledge of tumors and other conditions evolves, material requires reclassification by pathologists with subspecialty expertise in order to be useful. As such, repositories can become useless without continuous update and evaluation. Officials from academic centers that we spoke with said that the failure to preserve, maintain, and update the repository would be a tremendous loss to pathology, and general medicine overall. USUHS officials said that having staff pathologists with subspecialty expertise responsible for properly classifying pathology material is important to the repository's viability. USUHS discussed with us that it may employ about 10 to 12 pathologists with subspecialty expertise who would be responsible for reclassifying material in the repository as needed.

USUHS officials expressed a desire to expand the use of the repository to others outside of DOD—such as pharmaceutical companies and cooperative ventures with other academic institutions—so that the repository's role in general medical research could continue and benefit the general population. However, USUHS officials said that they first need to determine policy, financial, and legal ramifications, such as patient privacy issues, before they make any decisions regarding research access to the repository assets. USUHS officials also told us that the pathologists they hire would have access to pathology material in the repository and would also be responsible for conducting militarily relevant research.

Conclusions

AFIP is a noted institution that has provided pathology expertise in a range of subspecialty areas, and its customers value the services that it provides. Congress has mandated that DOD provide a detailed plan on disestablishing AFIP by December 2007, which gives DOD an opportunity to address potential challenges involved with closing the facility. DOD awarded a contract to study the usefulness of the material in the repository, which it anticipates to be completed by the end of 2008. DOD

anticipates using the study, a subsequent panel of experts, and a possible second contract to develop a detailed implementation plan to help make decisions on how the repository will be managed. As part of its planning process, it is critical for DOD's plan to go beyond the steps to terminate, relocate, or outsource AFIP's services and include implementation strategies that detail how it will organize consultation services and manage the repository in the future. DOD has not yet developed these strategies—strategies that could help mitigate potential negative impacts of disestablishing AFIP and facilitate a smooth transition as DOD looks to other sources for obtaining high-quality pathology services.

Recommendations for Executive Action

As part of DOD's initiative to develop a plan for disestablishing AFIP, we are making three recommendations to the Secretary of Defense that could help mitigate potential negative impacts of disestablishing AFIP.

- We recommend that the Secretary of Defense include in the December 2007 plan to Congress implementation strategies for how DOD will use existing in-house pathology expertise available within MTFs, identify and obtain needed consultation services from subspecialty pathologists with appropriate expertise through the PMO in a timely manner, and solidify the source and organization of funds to be used for outsourced consultation services.
- Within 6 months of completion of DOD's study regarding the usefulness of the pathology material in the repository that is to be finished in October 2008, the Secretary should require USUHS to provide Congress with information on the status of the repository's assets and their potential for research use.
- Prior to USUHS assuming responsibility for the repository, the Secretary should provide a report to Congress on its implementation strategies for how it will populate, manage, and use the repository in the future. The implementation strategies should include information on how USUHS intends to use pathology expertise to manage the material, obtain pathology material from a wide variety of individuals, maximize availability of the repository for research through cooperative ventures with other academic institutions, and assist interested groups—if any—in supporting the continuation of educational services, such as the Radiologic-Pathologic Correlation course.

Agency Comments and Our Evaluation

DOD and VA provided written comments on a draft of this report, included in appendix IV and appendix V. In commenting on a draft of this report, DOD concurred with the report's findings and conclusions and fully concurred with our recommendation for DOD to include its implementation strategies for organizing future pathology consultation services in its December 2007 plan to the Congress. However, DOD partially concurred with the recommendation to report to the Congress within 6 months of completing its study on the viability of the repository. Specifically, DOD indicated that USUHS would not be in a position to report its strategies on managing the repository until further work was completed. As a result, we modified our recommendation to limit the reporting requirement to information on the viability of material in the repository and its usefulness for research. We also added another recommendation that DOD should report to Congress at a later date on USUHS's planned strategies for managing the repository. In its written comments, VA agreed that the draft report was factually accurate, but indicated that it did not fully capture the essential nature of AFIP's services to VA and DOD or fully address the impact of its closing. We believe that we provided a balanced assessment of AFIP's services and the impact of its closing.

In its comments, DOD agreed with the description of the challenges it faces in developing new approaches to obtaining pathology expertise through the PMO and managing the repository to ensure that it remains a rich resource for civilian and military research. DOD emphasized that it was in the process of developing alternative strategies that would be coordinated internally and with VA to ensure that the strategies would meet DOD's needs, assist the VA, and be in accordance with BRAC recommendations. DOD concurred with our recommendation that the Secretary of Defense should include in the December 2007 plan to Congress implementation strategies for how DOD will use existing in-house pathology expertise available within MTFs, identify and obtain needed consultations from subspecialty pathologists with appropriate expertise through the PMO in a timely manner, and solidify the source and organization of funds to be used for outsourced consultation services. In addition, DOD agreed that the Secretary of Defense should submit a plan to Congress within 6 months of completion of the repository evaluation contract to provide information on the status of pathology material in it and its research potential. However, DOD indicated that the results of the evaluation contract will likely result in another contract to help develop a detailed strategy on how USUHS will populate, manage, and use the repository. Therefore, DOD will not be able to report on how USUHS will populate, manage, and use the repository within 6 months of completion

of the repository evaluation contract and did not concur with that portion of the draft recommendation. Given this, we modified our recommendations in this report to reflect the steps DOD anticipates taking. Specifically, we separated the recommendations to address reporting on the viability of the repository material and the strategies for its maintenance and use.

In commenting on a draft of this report, VA indicated that the report was factually accurate, but did not sufficiently describe the potential impact associated with closing AFIP. VA focused on five concerns—DU testing, stagnation of the repository, difficulties in replacing AFIP’s consultation services and obtaining them through the PMO, potential impact on patient care, and the potential costs to replace existing services.

- VA commented that AFIP’s testing of DU and other types of potentially harmful embedded fragments was essential to providing quality health care to recently injured veterans. VA indicated that our report did not sufficiently emphasize the importance of these AFIP services. While the report clearly states that DOD is considering retaining DU testing, we added additional text in this report to highlight VA’s concerns, including those about testing other types of potentially harmful embedded fragments.
- VA also indicated that the repository contained a large archive of veterans’ pathology specimens that would be invaluable for future clinical and research endeavors and expressed concern that DOD will allow the repository to stagnate upon closure of AFIP. Our report acknowledges the importance of the repository to veterans’ care. This is why we discussed the challenges of maintaining a viable repository in the report and made a specific recommendation that DOD provide information on future plans for it.
- Regarding consultation services, VA expressed concerns that other institutions may not have the capacity to absorb AFIP’s workload; some types of services might not be available; and obtaining services through the PMO may adversely affect timeliness and make it more complex and inefficient for local facilities to obtain pathology services. In our report, we discussed such concerns and stated that DOD faces challenges in obtaining expertise similar to what AFIP offered. As a result, we recommended that DOD report to the Congress on how it would address these challenges and obtain pathology services in the future.

-
- VA stated that the report did not fully discuss the impact of closing AFIP on patient care—especially the significance of changing diagnoses and of providing timely services. We disagree. The draft report clearly states that changing a diagnosis can lead to different treatment and, ultimately, a different outcome for the patient. The report also states that timeliness is important because it can affect patient treatment and outcomes. VA appears to assume that DOD will not be able to obtain timely and quality consultative services through the PMO. In the report, we stated that obtaining quality consultation services in a timely manner through the PMO is one of the challenges that DOD would have to address. Until DOD develops its strategies, we would not have a basis to determine whether it would be likely to meet this challenge.
 - VA commented on the potential high cost in procuring alternative sources for AFIP's services. We did not conduct an overall assessment of whether it would cost DOD more to obtain consultations from other sources than it would to maintain AFIP. DOD considered costs when developing its recommendation to the BRAC commission to outsource consultations. However, as we have reported previously, implementing other BRAC recommendations has led to lower cost savings than DOD had estimated.³⁶ Regarding the costs for VA, we state in our report that earlier studies had found that the costs of the services that AFIP provided to VA exceeded the value of the paid positions VA provided in exchange. AFIP officials indicated that this continued to be true in fiscal year 2007. As a result, depending on how and where VA obtains consultation services, its costs could increase.

As agreed with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from this date. At that time, we will send copies of this report to the Secretary of Defense, the Secretary of VA, appropriate congressional committees, and other interested parties. We will also make copies available to others upon request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>. If you or your staff have any questions about this report please contact me at (202) 512-7114 or williamsonr@gao.gov. Contact points for our Offices of Congressional

³⁶GAO, *Military Base Realignments and Closures: Observations Related to the 2005 Round*, [GAO-07-1203R](#) (Washington, D.C.: Sept. 6, 2007).

Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix VI.

A handwritten signature in black ink, reading "Randall B. Williamson". The signature is written in a cursive style with a large initial "R" and a distinct "B".

Randall B. Williamson
Director, Health Care

Appendix I: Scope and Methodology

To describe key services that the Armed Forces Institute of Pathology (AFIP) provides to the Department of Defense (DOD), the Department of Veterans Affairs (VA), and civilian communities, we reviewed recent reports describing AFIP's services and business practices, including a previous GAO report¹ and an Army Audit Agency report on AFIP's business plan² and a BearingPoint report on AFIP's capabilities,³ and other relevant reports, including some from VA. We also interviewed officials from AFIP, DOD, VA, the American Registry of Pathology (ARP), pathology associations such as the College of American Pathologists (CAP), the American Society for Investigative Pathology, and the Association of Pathology Chairs, as well as radiology associations, such as the American College of Radiology and the Canadian Radiology Association, to collect information on AFIP's core services. Additionally, we obtained data from AFIP on the services it provides. To assess the reliability of these data, we interviewed knowledgeable agency officials and reviewed related documentation. We determined that the data were sufficiently reliable for the purposes of this report.

To describe DOD's plans to terminate, relocate, or outsource services currently provided by AFIP, as required by the Base Realignment and Closure (BRAC) provision, we interviewed officials from DOD's Offices of the Surgeons General of the Army, Navy, and Air Force; the Office of the Assistant Secretary of Defense for Health Affairs; the Office of the General Counsel; the TRICARE Management Activity; the Office of the Deputy Under Secretary of Defense (Installations and Environment); AFIP; and the Uniformed Services University of the Health Sciences (USUHS). We also interviewed pathologists from military treatment facilities (MTF) and VA medical centers. In addition, we reviewed the BRAC business plan for the Walter Reed Army Medical Center and related assumptions and analysis that led to the BRAC decisions.

¹GAO, *Armed Forces Institute of Pathology: Business Plan's Implementation Is Unlikely to Achieve Expected Financial Benefits and Could Reduce Civilian Role*, [GAO-05-615](#) (Washington, D.C.: June 30, 2005).

²U.S. Army Audit Agency, *Armed Forces Institute of Pathology*, Audit Report: A-2006-0170-FFH (Alexandria: August 2006).

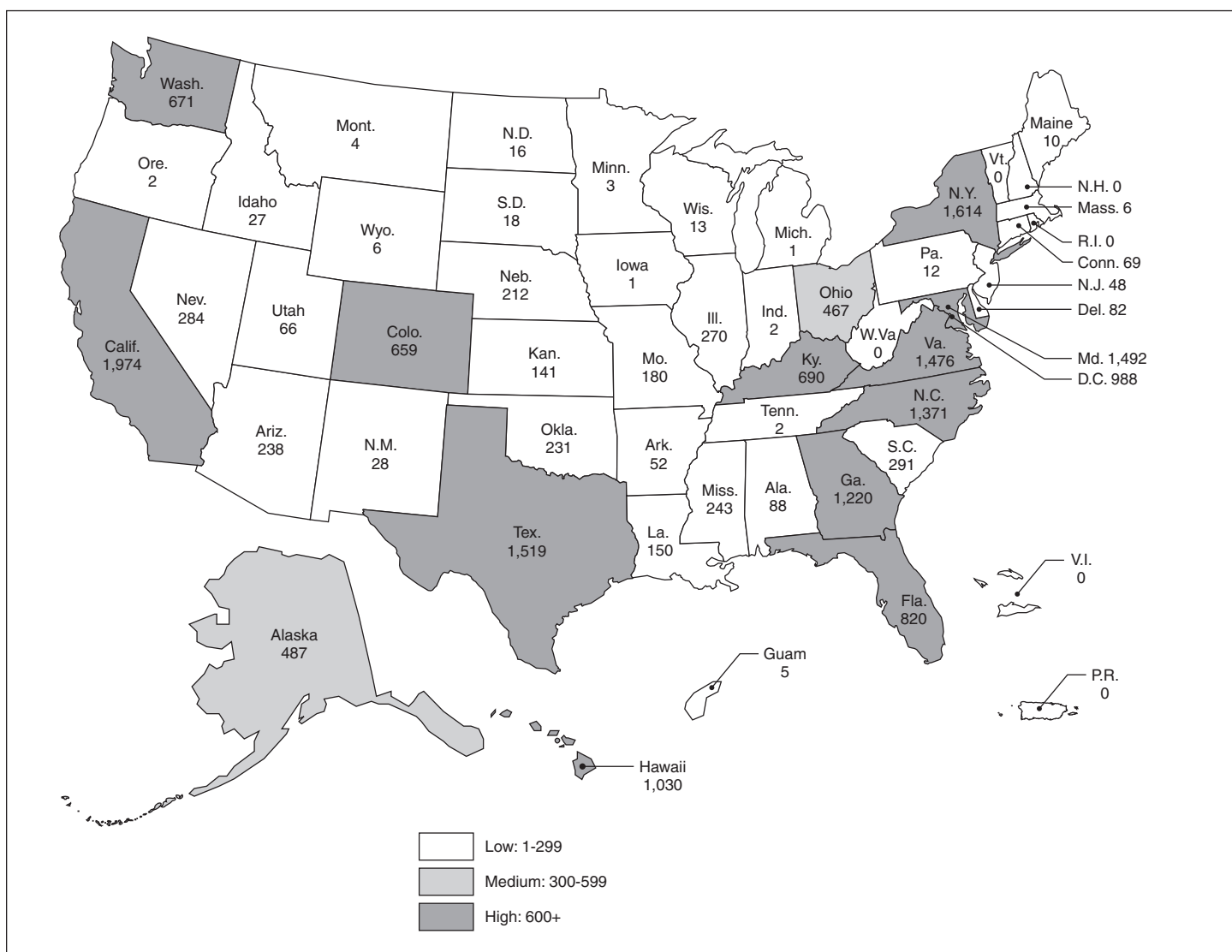
³BearingPoint, *Review of Armed Forces Institute of Pathology Capabilities Recommended for Disestablishment by the Defense Base Closure and Realignment Commission 2005*, May 2006.

To assess the potential impacts of disestablishing AFIP on the military and civilian communities, we interviewed pathologists from AFIP, ARP, five MTFs and five VA medical centers, as well as civilian pathologists from four major medical centers. We interviewed representatives from pathology and radiology associations, including ARP, CAP, the American Society for Investigative Pathology, the Association of Pathology Chairs, the American College of Radiology, and the Canadian Association of Radiologists, to obtain their views regarding the potential impact of discontinuing AFIP's core services. In addition, we reviewed data from various reports and other documents to assess the potential impact of discontinuing the three key services as AFIP currently provides. We performed our work from March 2007 through November 2007 in accordance with generally accepted government auditing standards.

Appendix II: Maps of the Armed Forces Institute of Pathology's (AFIP) 2006 Consultations

In 2006, AFIP provided almost half of its consultations for DOD, with the rest predominantly for VA and civilian physicians. (See fig. 2 for the 2006 distribution of AFIP's DOD consultations, fig. 3 for its VA consultations, and fig. 4 for its civilian consultations.)

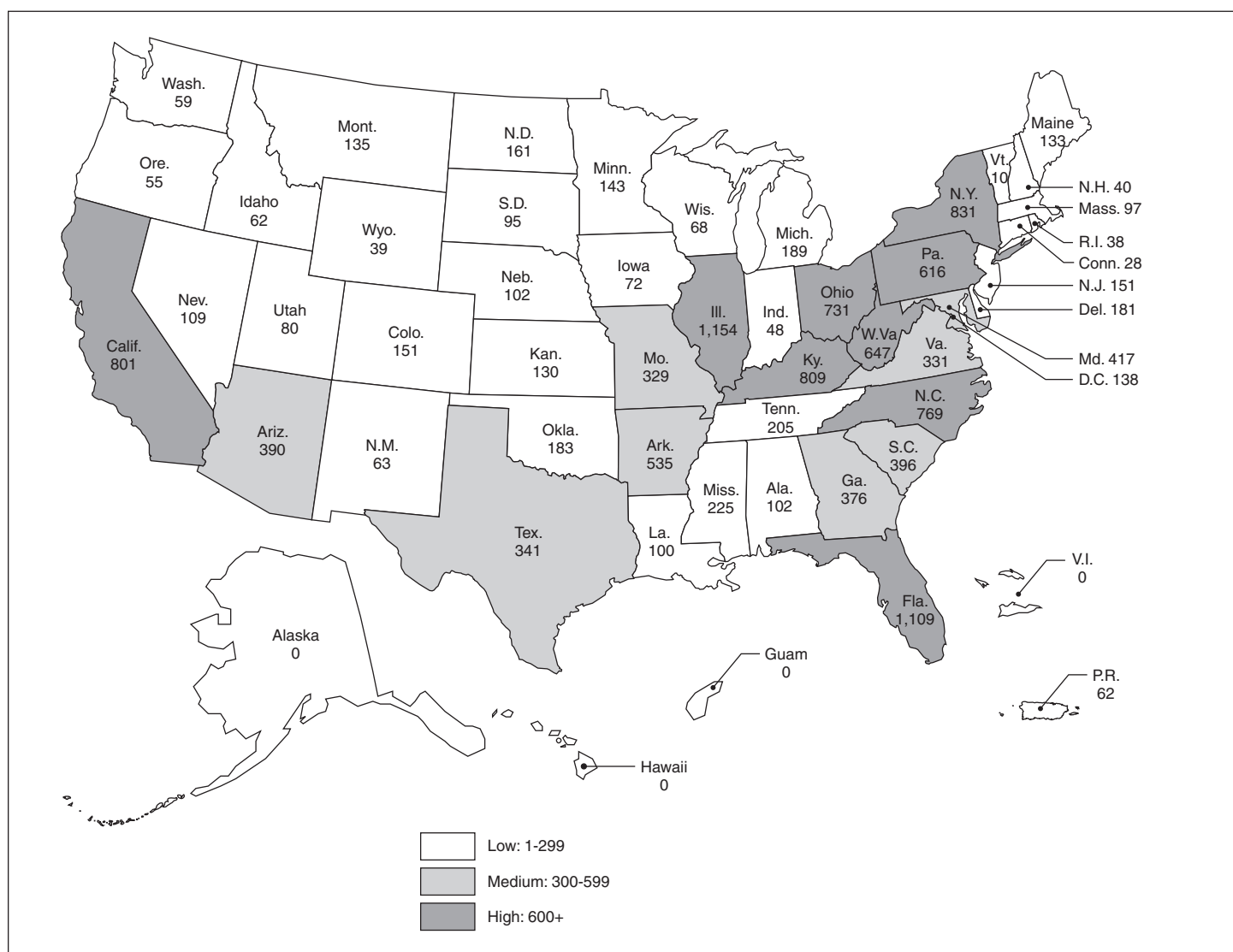
Figure 2: AFIP's DOD Consultations for 2006



Sources: GAO summary of AFIP data; Copyright © Corel Corp. All rights reserved; MapArt (map).

**Appendix II: Maps of the Armed Forces
Institute of Pathology's (AFIP) 2006
Consultations**

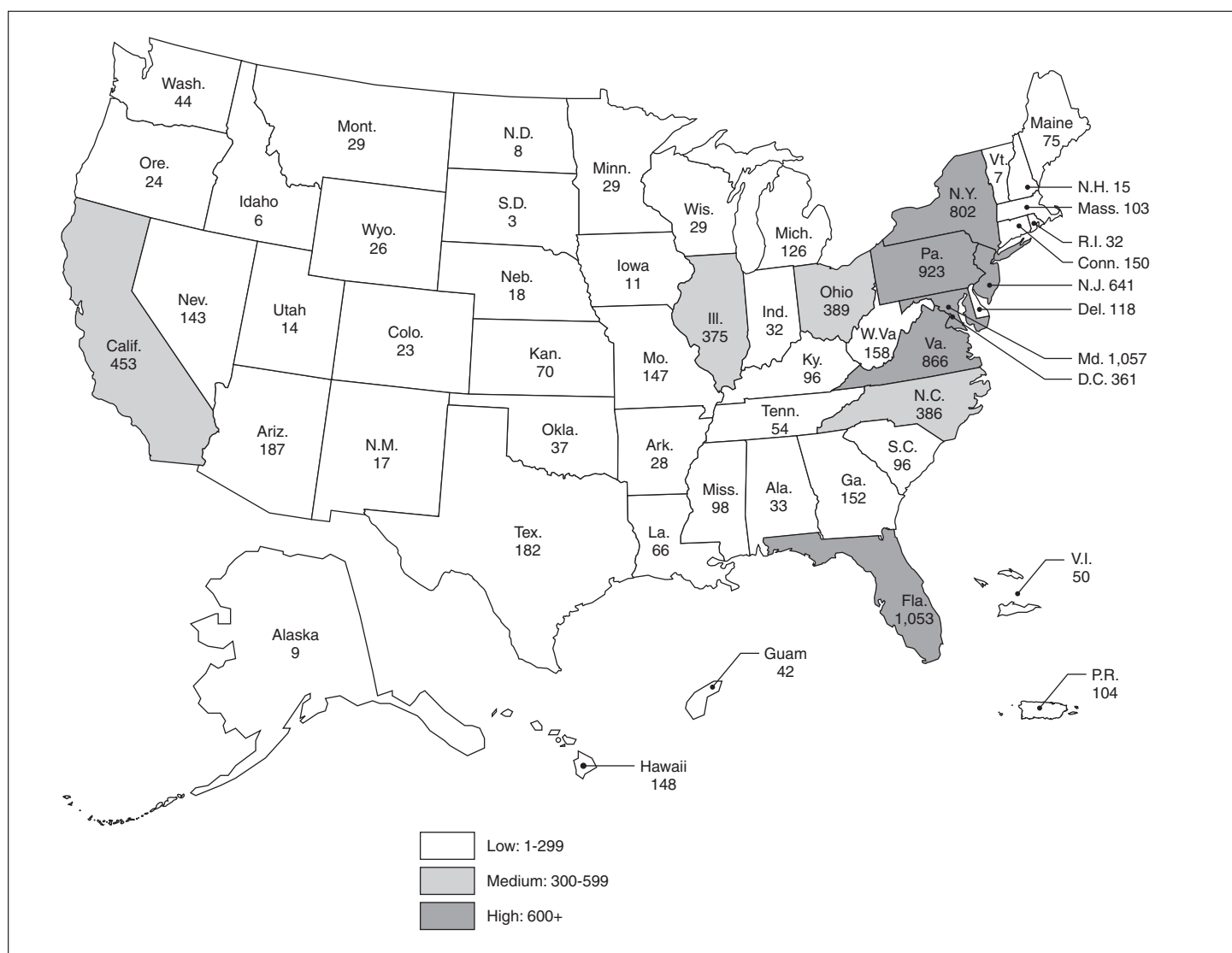
Figure 3: AFIP's VA Consultations for 2006



Sources: GAO summary of AFIP data; Copyright © Corel Corp. All rights reserved; MapArt (map).

**Appendix II: Maps of the Armed Forces
Institute of Pathology's (AFIP) 2006
Consultations**

Figure 4: AFIP's Civilian Consultations for 2006



Sources: GAO summary of AFIP data; Copyright © Corel Corp. All rights reserved; MapArt (map).

Appendix III: Description of Services Performed by the Armed Forces Institute of Pathology (AFIP)

Legal Medicine: Legal Medicine provides consultation, education, and research on medical legal, quality assurance, and risk management issues to the Department of Defense (DOD); manages a registry of closed DOD medical malpractice cases; manages the DOD Centralized Credentials Quality Assurance System; assists the Uniformed Services University of the Health Sciences (USUHS) with the masters degree program in Forensic Sciences; awards continuing medical education (CME) credits in medical legal, quality assurance, and risk management to nurses and physicians; and publishes the journals Legal Medicine and Nursing Risk Management.

National Museum of Health and Medicine: The National Museum of Health and Medicine was established during the Civil War as the Army Medical Museum. The Museum promotes the understanding of medicine from past, present, and future, with a special emphasis on American military medicine. It has five major collections: Anatomical, Historical, Otis Historical Archives, Human Developmental Anatomy Center, and Neuroanatomical, which are estimated to contain more than 24 million objects.

Repository: The National Pathology Repository contains approximately 3 million case files and associated paraffin blocks, microscopic glass slides, and formalin-fixed tissue specimens. Tens of thousands of cases are added to the repository each year. Staff code all material for future research use.

The Office of the Armed Forces Medical Examiner, DNA (deoxyribonucleic acid) Registry, and Accident Investigation: The Office of the Armed Forces Medical Examiner conducts scientific forensic investigations for determining the cause and manner of death of members of the Armed Forces and of civilians whose deaths come under exclusive federal jurisdiction. The office provides consultative services in forensic pathology, forensic toxicology, forensic anthropology, and DNA technology, as well as on-site medical legal investigations of military accidents. It is the only federal resource of its kind, so other federal agencies frequently use its services. The DOD DNA Registry is at the forefront of nuclear and mitochondrial DNA technology, supports the Office of the Armed Forces Medical Examiner in identification, and serves as the repository for specimens obtained from military personnel to be used for identification.

Enlisted histology technician training: The Tri-Service School of Histotechnology is the only military histopathology training program, according to a DOD official. It consists of 180 training days in the technical operations of anatomic pathology. Training includes instruction in the theory and application of histotechnology and practical training in the fixation, processing, embedding, microtomy, and staining of tissue specimens prior to examination by a pathologist. The curriculum also includes instruction and practical experience as a postmortem examination (autopsy) assistant.

Program Management Office (PMO): The PMO will be newly established to coordinate pathology results, contract administration, and quality assurance and control of DOD second-opinion consults worldwide.

DOD Veterinary Pathology Residency Program: The DOD Veterinary Pathology Residency Program is a 3-year postdoctoral training program. Residents are involved in consultation, education, and research during the program. The residency culminates in a 2-day examination given by the American College of Veterinary Pathologists, and successful completion of this examination results in board certification in veterinary anatomic pathology.

Automated Central Tumor Registry: The Automated Central Tumor Registry provides the uniformed services MTFs with the capability to compile, track, and report cancer data on DOD beneficiaries. The objective of the registry is to maintain a research quality database for cancer reporting that supports outcome analysis, referral patterns, trend analysis, statistical reporting, health care analysis, epidemiology, and uniform data collection and tracking.

Center for Clinical Laboratory Medicine: The Center for Clinical Laboratory Medicine directs the operation of the DOD Clinical Laboratory Improvement Program, as defined by DOD Instruction 6440.2 and Public Law No. 100-578; administers law and federal policy for military medical laboratory operations in peace, contingency, and wartime, ensuring that no restrictions or cessation of laboratory services impedes DOD mission requirements; and acts as gatekeeper for DOD and Centers for Disease Control and Prevention (CDC) initiatives to develop a biological warfare detection and response system, that is, National Laboratory Response Network.

Patient Safety Center: The Patient Safety Center manages a comprehensive patient safety data registry for DOD. The DOD Patient Safety Registry is a database that gathers standardized clinically relevant information about all instances and categories of actual events and close calls. This registry is used to identify and provide feedback on systemic patterns and practices that place DOD patients at risk, and thereby it stimulates, initiates, and supports local interventions designed to reduce risk of errors and to protect patients from inadvertent harm. The Patient Safety Center publishes DOD Patient Safety Alerts, and it produced the first Patient Safety Toolkit targeting patient fall reduction.

Diagnostic telepathology: The practice of pathology involves using telecommunications to transmit data and images between two or more sites remotely located from each other, according to a DOD official. The data include clinical information about the patient, such as signs, symptoms, treatment, and response; gross description of the surgical specimen(s); and digital images of the processed specimen. These data are transmitted electronically, allowing a pathologist practicing in a geographically distant site to consult another pathologist for a second opinion, or to consult other pathologists who are experts on particular disease processes.

Biodefense Project – The Joint Biological Agent Identification and Diagnostic System: The Joint Biological Agent Identification and Diagnostic System pertains to a rapid identification and diagnostic confirmation of biological agent exposure or infection, according to a DOD official. The standalone system consists of a portable unit to perform sample analysis, a laptop computer for readout display and assay reagent test kits to identify multiple biological warfare agents, infectious disease agents, and biological toxins.

Biodefense Project – The Critical Reagent Program: The Critical Reagent Program provides bulk quantities of DNA extracted from selected biological threat agents, according to a DOD official. These are then used to develop validated, high-quality immunological and DNA-based biodetection reagents to support different biological warfare agent detector platforms.

Reserve Biological Select Agent Inventory: The Reserve Biological Select Agent Inventory is registered with CDC and with the Army Medical Command, and includes over 1,500 strains of controlled biological select agents and toxins, according to a DOD official. These are stored in freezers in secure Biosafety Laboratory level 3 areas of AFIP. Storage, use, and

transfer of any agents or toxins is strictly controlled and regulated by CDC and Army regulations.

Depleted uranium (DU) testing: DU Urine Testing supports medical surveillance programs by measuring the levels of uranium in patients' urine and identifies the specific source of exposure by accurately measuring uranium isotopic ratios, according to a DOD official. DU Testing in Body Fluids and Tissue provides chemical analysis of embedded DU fragments in tissues removed from shrapnel wounds.

Cystic fibrosis testing: A test for cystic fibrosis is one of several tests for genetically inherited diseases that are recommended by the Department of Health and Human Services' Health Resources and Services Administration and the American College of Medical Genetics. AFIP ceased cystic fibrosis testing on June 1, 2007. All DOD cystic fibrosis tests are currently being performed by commercial labs or other DOD labs.

Appendix IV: Comments from the Department of Defense



THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

OCT 26 2007

Mr. Randall Williamson
Director, Health Care
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Williamson:

This is the Department of Defense's (DoD) response to the Government Accountability Office (GAO) draft report, GAO 08-20, "MILITARY BASE CLOSURES: Impact of Terminating, Relocating, or Outsourcing the Services of the Armed Forces Institute of Pathology," dated October 5, 2007 (GAO Code 290622).

Thank you for the opportunity to review and comment on the draft report. Overall, the Department concurs with the report's findings and conclusions. Our response to the recommendations is enclosed. DoD concurs with Recommendation 1, and partially concurs with Recommendation 2. Input was obtained from the Armed Forces Institute of Pathology (AFIP), the Uniformed Services University of Health Sciences (USUHS), the Military Departments, and the DoD Office of the General Counsel.

The GAO's overall finding was that discontinuing, relocating, or outsourcing AFIP services may have minimal impact on DoD, VA, and civilian communities because pathology services are available from alternate sources. A smooth transition depends on DoD's actions to address the challenges in developing new approaches to obtaining pathology expertise and managing the repository. The report states that while DoD has begun to identify the challenges, it has not developed strategies to address them. In addition, DoD has not developed its strategies to determine whether the repository will continue to be a rich resource for civilian and military research.

While we agree with the description of the challenges, we would like to emphasize that we are actively pursuing alternatives to develop the best courses of action for the Program Management Office and the Tissue Repository. These will be coordinated across the Department, and with the Veterans Administration, to ensure we develop a strategy that will meet the Department's needs, assist the VA as much as possible, and be in accordance with the BRAC recommendations.

My points of contact on this audit are Dr. Benedict Diniega (Functional) at (703) 681-1703 and Mr. Gunther Zimmerman (Audit Liaison) at (703) 681-4360.

Sincerely,

A handwritten signature in dark ink, appearing to read "S. Ward Casscells, MD".
S. Ward Casscells, MD

Enclosure:
As stated

GAO DRAFT REPORT—DATED OCTOBER 5, 2007
(GAO CODE 290622/GAO-08-20)

**“MILITARY BASE CLOSURES: Impact of Terminating, Relocating, or Outsourcing
the Services of the Armed Forces Institute of Pathology”**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATIONS**

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense include in his December 2007 plan to the Congress implementation strategies for how DoD will use existing in-house pathology expertise available within MTFs, identify and obtain needed consultation services from subspecialty pathologists with appropriate expertise through the PMO in a timely manner, and solidify the source and organization of funds to be used for outsourced consultation services.

DOD RESPONSE: Concur. The AFIP established a work group to develop courses of action for optimal utilization of in-house pathology expertise and the PMO. After legal review of the initial concepts, the members of the work group continue to refine their concept for consideration by the senior medical leadership. The approved strategy will be included in the December 2007 report to Congress.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense within six months of completion of its study regarding the usefulness of the pathology material in the repository that is to be finished by 2008, should require USUHS to provide its implementation strategies on how it will populate, manage, and use the repository to the Congress. The implementation strategies should include information on how USUHS intends to use pathology expertise to manage the material, obtain pathology material from a wide variety of individuals, maximize availability of the repository for research through cooperative ventures with other academic institutions and assist interested groups if any, in supporting the continuation of educational services such as the Radiologic-Pathologic Correlation course.

DOD RESPONSE: Partially Concur. The Department agrees with providing a report six months after completion of the evaluation contract, to provide information on the status of the repository assets and their research utility potential. The content of the report, however, will not include an implementation strategy. USUHS awarded a contract to evaluate the usefulness of the pathology material in the repository and the results will be available October 2008. At that time, USUHS plans to convene a panel of experts to develop a blueprint for a roadmap on how to use the repository for research. This will most likely result in another contracting action to develop a strategy with details as to how USUHS will populate, manage, and use the repository. Therefore, a report submitted within six months of completion of the current contract will not include the implementation strategies and detail contained in Recommendation 2. USUHS will develop implementation strategies, based on the results of the panel and the necessary studies, to optimize populating the repository. For example, an agreement with the Veterans Administration could provide specimens for the repository. However, USUHS does not anticipate continuing the Radiologic-Pathologic Correlation course, or any other educational courses, as a means of populating the repository. In addition, based upon the evaluation results, and recommendations from the panel of experts, USUHS may pursue cooperative ventures not just with other academic organizations, but with federal and non-federal research organizations, and other public and private organizations as well.

Appendix V: Comments from the Department of Veterans Affairs



THE SECRETARY OF VETERANS AFFAIRS

WASHINGTON

October 25, 2007

Mr. Randall B. Williamson
Director, Health Care
U. S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Mr. Williamson:

The Department of Veterans Affairs (VA) has reviewed your draft report, ***MILITARY BASE CLOSURES: Impact of Terminating, Relocating, or Outsourcing the Services of the Armed Forces Institute of Pathology*** (GAO-08-20).

While the draft report is in general factually accurate, it does not underscore that maintenance of the Armed Forces Institute of Pathology's (AFIP) services and expertise are essential for both VA and the Department of Defense (DoD). Neither does the report fully address the impact of closing the AFIP on patient care, which is paramount for both VA and DoD.

The enclosure provides more detailed comments on VA's concerns with GAO's report as currently written. Thank you for the opportunity to comment on your draft report.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Gordon H. Mansfield".

Gordon H. Mansfield
Acting

Enclosure

Enclosure

Department of Veterans Affairs (VA)
Comments to the
Government Accountability Office (GAO) draft report,
***MILITARY BASE CLOSURES: Impact of Terminating, Relocating, or
Outsourcing the Services of the Armed Forces Institute of Pathology***
(GAO-08-20)

The Department of Veterans Affairs (VA) believes GAO's draft report insufficiently describes some of the considerable losses associated with the closing of the Armed Forces Institute of Pathology (AFIP). This discusses briefly some of those limitations.

The AFIP support in the Depleted Uranium (DU) testing program, as well as the toxicological testing related to other potentially harmful embedded fragments (e.g. cobalt, nickel, tungsten) are not emphasized in GAO's draft report. These testing services are essential to provide high quality health care to recently injured combat veterans. AFIP maintains a large archive of veteran pathology specimens that could be invaluable for historical comparative purposes in future clinical and research endeavors. Stagnation of this repository, and the disbandment of key technical staff with broad expertise that will be extremely difficult to replicate, are likely to occur upon closure of AFIP. The report also does not address sufficiently the potential cost impact of this change, which may or may not be minimal.

In addition, some of the other services the AFIP provides are not presently available from any other source (e.g. the uranium studies). The report cites Massachusetts General, M D Anderson, and Johns Hopkins as institutions that have multi and subspecialty pathology expertise, and that these institutions handle 60,000 consultations a year. However, the report does not address if any of these institutions have the excess capacity to absorb the AFIP workload. Other than the casual allusion to these academic centers, the draft report does not identify (or suggest the requirements of) any potential replacement resource for the AFIP's services. Due to the potential high cost in procuring alternative sources for the consultative services as well as the limited availability of some of the other services the AFIP provides, we believe the impacts to both the Department of Defense (DoD) and VA are significant.

The report also does not fully discuss the impact of the closure of the AFIP on patient care. The report documents the large percentage of cases that the AFIP reviews and how the AFIP review changes the diagnosis. However, the report is silent on the significance of this finding for proper patient care. The report mentions that the "timeliness" of services is of critical concern to DoD and VA, but again is silent on the significance of this finding for proper patient care.

Enclosure

Department of Veterans Affairs (VA)
Comments to the
Government Accountability Office (GAO) draft report,
***MILITARY BASE CLOSURES: Impact of Terminating, Relocating, or
Outsourcing the Services of the Armed Forces Institute of Pathology***
(GAO-08-20)
(Continued)

Further, the report does not address the significant changes in business practices that the closure of the AFIP will cause at the local facility level. The Program Management Office (PMO) specified in the Base Realignment and Closure (BRAC) law will just add another administrative entity that does not currently exist. Adding an additional administrative layer increases costs and has the potential to impact adversely the timeliness of consultations, which ultimately results in degrading patient care. The loss of "one stop shopping" and the addition of an intermediate entity, the PMO, will make administrative processes at the local level more complex and reduce efficiency.

Appendix VI: GAO Contact and Staff Acknowledgments

GAO Contact

Randall B. Williamson, (202) 512-7114 or williamsonr@gao.gov

Acknowledgments

In addition to the contact named above, Sheila Avruch, Assistant Director; Adrienne Griffin; Cathy Hamann; Nora Hoban; Jasleen Modi; Carolina Morgan; and Andrea Wysocki made key contributions to this report.

Related GAO Products

Military Base Realignment and Closures: Transfer of Supply, Storage, and Distribution Functions from Military Services to Defense Logistics Agency. [GAO-08-121R](#). Washington, D.C.: October 26, 2007.

Defense Infrastructure: Challenges Increase Risks for Providing Timely Infrastructure Support for Army Installations Expecting Substantial Personnel Growth. [GAO-07-1007](#). Washington, D.C.: September 13, 2007.

Military Base Realignment and Closures: Plan Needed to Monitor Challenges for Completing More Than 100 Armed Forces Reserve Centers. [GAO-07-1040](#). Washington, D.C.: September 13, 2007.

Military Base Realignment and Closures: Observations Related to the 2005 Round. [GAO-07-1203R](#). Washington D.C.: September 6, 2007.

Military Base Closures: Projected Savings from Fleet Readiness Centers Likely Overstated and Actions Needed to Track Actual Savings and Overcome Certain Challenges. [GAO-07-304](#). Washington, D.C.: June 29, 2007.

Military Base Closures: Management Strategy Needed to Mitigate Challenges and Improve Communication to Help Ensure Timely Implementation of Air National Guard Recommendations. [GAO-07-641](#). Washington, D.C.: May 16, 2007.

Military Base Closures: Opportunities Exist to Improve Environmental Cleanup Cost Reporting and to Expedite Transfer of Unneeded Property. [GAO-07-166](#). Washington, D.C.: January 30, 2007.

Military Bases: Observations on DOD's 2005 Base Realignment and Closure Selection Process and Recommendations. [GAO-05-905](#). Washington, D.C.: July 18, 2005.

Military Bases: Analysis of DOD's 2005 Selection Process and Recommendations for Base Closures and Realignments. [GAO-05-785](#). Washington, D.C.: July 1, 2005.

Armed Forces Institute of Pathology: Business Plan's Implementation Is Unlikely to Achieve Expected Financial Benefits and Could Reduce Civilian Role. [GAO-05-615](#). Washington, D.C.: June 30, 2005.

Military Base Closures: Updated Status of Prior Base Realignments and Closures. [GAO-05-138](#). Washington, D.C.: January 13, 2005.

Related GAO Products

Military Base Closures: Assessment of DOD's 2004 Report on the Need for a Base Realignment and Closure Round. [GAO-04-760](#). Washington, D.C.: May 17, 2004.

Military Base Closures: Observations on Preparations for the Upcoming Base Realignment and Closure Round. [GAO-04-558T](#). Washington, D.C.: March 25, 2004.

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